

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 26.04.95  
Test oil : ISO 4113

Combination No. : 0 400 074 896

Injection pump  
Pump designation : PES4M55C320RS110  
EP type number : 0 410 054 956

Governor  
Governor design. : RSF375/2200M21  
Governor no. : 0 420 021 148

Cust. part No. :

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM616 2.4L ADA  
Power kW : 55.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 012

Inlet press. bar : 1.0

Test nozzle holder  
assembly : 1 688 901 111

Opening pressure  
bar : 148.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 12.65  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 37.5

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : ± 1.5

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5

Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

Rated speed rpm : 375

Rack travel in mm : 6.20  
Tolerance mm : ± 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 7.5

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

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IDLE STAGE

Rack travel in mm : 6.00  
Tolerance mm : + 0.10

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FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
Ref. pressure  
ALDA / ADA hPa : 1100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 37.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 1.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

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RATED SPEED

control lever  
position degree : 50.0  
  
rack travel mm : 8.40  
Rated speed rpm : 2350  
  
rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 2950

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SET IDLE CONTROL LEVER POSITION

Rated speed rpm : 1000  
CRT mm max. : 1.45

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LOW IDLE

control lever  
position degree : 10.0  
tolerance degree : + 2.0  
  
Setting point w/out bumper spring  
Rated speed rpm : 375  
rack travel mm : 6.20

SET IDLE AUXILIARY SPRING

Rated speed rpm : 450  
rack travel mm : 5.20  
Tolerance mm : + 0.10

rack travel mm : 2.00  
Rated speed rpm : 780  
Tolerance 1/min : + 50

Load pick-up

Rated speed rpm : 250  
CRT mm min. : > 10.00  
Rated speed rpm : 1000  
CRT mm max. : 1.45  
  
rack travel mm : 6.20  
Rated speed rpm : 375

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TORQUE CONTROL

Rated speed rpm : 1000  
rack travel mm : 12.65  
Tolerance mm : + 0.05

Rated speed rpm : 1700  
rack travel mm : 12.30  
Tolerance mm : + 0.10

Rated speed rpm : 2150  
rack travel mm : 11.90  
Tolerance mm : + 0.10

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ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 1000  
Ref. pressure  
ALDA / ADA hPa : 950  
rack travel mm : -0.10  
Tolerance mm : + 0.10

MEASUREMENT

Rated speed rpm : 1000  
Ref. pressure  
ALDA / ADA hPa : 900  
rack travel mm : -0.60  
Tolerance mm : + 0.10

Rated speed rpm : 1000

Ref. pressure  
ALDA / ADA hPa : 750  
rack travel mm : -2.00  
Tolerance mm : ± 0.20

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FUEL DELIVERY CHARACTERISTICS

Ref. pressure  
ALDA / ADA hPa : 1100  
Rated speed rpm : 1700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 38.3  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.8  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 1.8  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

Ref. pressure  
ALDA / ADA hPa : 1100  
Rated speed rpm : 2150  
Spreed  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 38.3  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 2.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

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HIGH IDLE

Rated speed rpm : 2350  
rack travel mm : 8.40  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 22.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

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STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 52.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

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LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 8.3  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 1.8  
Spreed  
Check tolerance  
cm<sup>3</sup>/1000S. : 1.5

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Grad : > 49.00

Grad : < 46.50

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SETTING PNEUMATIC FAST IDLE (ELA)

control lever  
position degree : 10.0  
tolerance degree : ± 2.0

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SETTING/TESTING ELECTRONIC IDLE  
REGULATION (ELR)

control lever  
position degree : 10.0  
tolerance degree : ± 2.0

control lever  
position degree : 50.0

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ADJUSTMENT

control lever  
position degree : 50.0

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TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 375

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End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 31.05.90  
Test oil : ISO 4113  
Combination No. : 0 400 836 016  
Injection pump  
Pump designation : PES6A85D410/3RS2415  
EP type number : 0 410 886 915  
Governor  
Governor design. : RQV750AB1004L  
Governor no. : 0 420 212 093

Cust. part No. :

Customer-spec. information  
Customer : KHD  
Motor : BF6L913  
Power KW : 42.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet temp. °C : 40  
Tolerance °C : +- 2.0  
Overflow valve : 1 417 413 000  
Inlet press. bar : 1.5  
Test nozzle holder assembly : 0 681 343 009  
Opening pressure bar : 173.5  
Tolerance bar : +- 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant. per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : +- 1.0  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : +- 0.50  
Check tolerance °NW : +- 0.75

BASIC SETTING

Del. quantity cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance cm<sup>3</sup>/1000S. : +- 5.0  
Speed  
Tolerance cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance cm<sup>3</sup>/1000S. : 4.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 752  
guide sleeve travel mm : 3.33  
Tolerance mm : +- 0.25  
Rated speed rpm : 530  
guide sleeve travel mm : -6.91

Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 880  
 guide sleeve  
 travel mm : 17.51  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 825  
 guide sleeve  
 travel mm : 10.00  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 880  
 guide sleeve  
 travel mm : 11.50  
 Tolerance mm :  $\pm$  0.50

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GUIDE SLEEVE POSITION

Rated speed rpm : 800

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FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 720  
 Aneroid pressure  
 hPa : -

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CONTROL LEVER

control lever  
 position degree : 87.0  
 tolerance degree :  $\pm$  4.0

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 737  
 rack travel mm : 11.00

Rated speed rpm : 778  
 Tolerance 1/min :  $\pm$  5  
 rack travel mm : 4.00

rack travel mm : 0.50  
 Tolerance mm :  $\pm$  0.50  
 Rated speed rpm : 798

Rated speed rpm : 738  
 rack travel mm : 11.00

Rated speed rpm : 779  
 Tolerance 1/min :  $\pm$  5  
 rack travel mm : 4.00

rack travel mm : 0.50  
 Tolerance mm :  $\pm$  0.50

Rated speed rpm : 739  
 rack travel mm : 11.00

Rated speed rpm : 780  
 Tolerance 1/min :  $\pm$  5  
 rack travel mm : 4.00

rack travel mm : 0.50  
 Tolerance mm :  $\pm$  0.50

Rated speed rpm : 740  
 rack travel mm : 11.00

Rated speed rpm : 781  
 Tolerance 1/min :  $\pm$  5  
 rack travel mm : 4.00

rack travel mm : 0.50  
 Tolerance mm :  $\pm$  0.50

Rated speed rpm : 741  
 rack travel mm : 11.00

Rated speed rpm : 792  
 Tolerance 1/min :  $\pm$  5  
 rack travel mm : 4.00

rack travel mm : 0.50  
 Tolerance mm :  $\pm$  0.50

Rated speed rpm : 742  
 rack travel mm : 11.00

Rated speed rpm : 793  
 Tolerance 1/min :  $\pm$  5  
 rack travel mm : 4.00

rack travel mm : 0.50  
 Tolerance mm :  $\pm$  0.50

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START CUT-OUT

Rated speed rpm :  $>$  100  
 Rated speed rpm :  $<$  660

Check  
 speed 1/min :  $>$  80

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FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
 hPa : -  
 Rated speed rpm : 750

Del. quantity  
cm<sup>3</sup>/1000 strokes : 36.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.0

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STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.25  
Tolerance mm : ± 0.75  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 130.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 8.0

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LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.5

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End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 30.10.92  
Test oil : ISO 4113  
Combination No. : 0 400 846 549  
Injection pump  
Pump designation : PES6A95D41ORS2471  
EP type number : 0 410 896 952  
Governor  
Governor design. : RQV300...1250AB1089  
: -2L  
Governor no. : 0 420 212 190

Cust. part No. :

Customer-spec. information

Customer : KHD  
Motor : BF6L913C  
Power KW : 141.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0  
Overflow valve : 1 419 992 198  
Inlet press. bar : 1.5  
Test nozzle holder  
assembly : 0 681 343 009  
Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1250  
Rack travel in mm : 11.65  
Tolerance mm : + 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 102.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0  
Rated speed rpm : 300  
Rack travel in mm : 7.30  
Tolerance mm : + 0.10



Del. quantity  
 cm3/1000 strokes : 13.0  
 Tolerance  
 cm3/1000 strokes : +- 3.0  
 Check tolerance  
 cm3/1000S. : +- 5.5  
 Spreed  
 Tolerance  
 cm3/1000 strokes : 3.5  
 Check tolerance  
 cm3/1000S. : 5.5

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.35  
 Tolerance mm : +- 0.05

Rated speed rpm : 1290  
 guide sleeve  
 travel mm : 8.45  
 Tolerance mm : +- 0.05

Rated speed rpm : 650  
 guide sleeve  
 travel mm : 3.80  
 Tolerance mm : +- 0.10

Rated speed rpm : 1200  
 guide sleeve  
 travel mm : 7.00  
 Tolerance mm : +- 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 1290

Rack travel in mm : 16.50  
 Tolerance mm : +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm3/1000 strokes : 102.0  
 Tolerance  
 cm3/1000 strokes : +- 1.0  
 Check tolerance  
 cm3/1000S. : +- 3.0  
 Spreed

Tolerance  
 cm3/1000 strokes : 3.5  
 Check tolerance  
 cm3/1000S. : 6.0

CONTROL LEVER

control lever  
 position degree : 122.0  
 tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 10.60  
 Rated speed rpm : 1295  
 Tolerance 1/min : +- 5

rack travel mm : 4.00  
 Rated speed rpm : 1360  
 Tolerance 1/min : +- 15

rack travel mm : 0.50  
 Tolerance mm : +- 0.50  
 Rated speed rpm : 1500

LOW IDLE

control lever  
 position degree : 73.0  
 tolerance degree : +- 4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 7.30  
 Tolerance mm : +- 0.10

Rated speed rpm : 100

CRT mm min. : > 9.00

Rated speed rpm : 418

TORQUE CONTROL

Rated speed rpm : 1250  
 rack travel mm : 11.65  
 Tolerance mm : +- 0.05

Rated speed rpm : 500  
 rack travel mm : 11.70  
 Tolerance mm : +- 0.10

Rated speed rpm : 850

rack travel mm : 11.65  
Tolerance mm : ± 0.10

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START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 220

Check speed 1/min : > 80  
Check speed 1/min : < 240

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FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 850  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 97.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

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BREAKAWAY

Rack travel in mm : 10.60  
Rated speed rpm : 1295  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 16.00  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 127.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 8.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 7.30  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

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End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 31.05.95  
Test oil : ISO 4113  
  
Combination No. : 0 402 746 954A  
  
Injection pump  
Pump designation : PES6P120A72ORS7301  
EP type number : 0 412 726 900  
  
Governor  
Governor design. : RQV300...1050PA1090K  
Governor no. : 0 421 815 362

Cust. part No. : 9275449

Customer-spec. information  
Customer : LIEBHERR  
Motor : D 926 TI  
Power kW : 230.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Overflow quantity min. l/h : 115  
Tolerance l/h : ± 10.0

Test nozzle holder assembly : 1 688 901 105

Opening pressure bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 075  
Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant. per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.75  
Tolerance mm : ± 0.05  
Check tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 14.35  
Tolerance mm : ± 0.05

Del. quantity cm<sup>3</sup>/1000 strokes : 240.0

Tolerance cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0

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Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0

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Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 350

Rack travel in mm : 6.10  
 Tolerance mm : + 0.20

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 25.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
 cm<sup>3</sup>/1000S. : + 6.0

Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 10.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.69  
 Tolerance mm : + 0.15

Rated speed rpm : 1117  
 guide sleeve  
 travel mm : 10.38  
 Tolerance mm : + 0.20

Rated speed rpm : 746  
 guide sleeve  
 travel mm : 6.20  
 Tolerance mm : + 0.25

Rated speed rpm : 353  
 guide sleeve  
 travel mm : 2.45  
 Tolerance mm : + 0.25

Rated speed rpm : 403  
 guide sleeve  
 travel mm : 3.18  
 Tolerance mm : + 0.25

Rated speed rpm : 450

guide sleeve  
 travel mm : 3.66  
 Tolerance mm : + 0.25

Rated speed rpm : 1320  
 guide sleeve  
 travel mm : 13.50  
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1170  
 Rack travel in mm : 13.00  
 Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050  
 Aneroid pressure  
 hPa : 1600  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 240.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

CONTROL LEVER

control lever  
 position degree : 121.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 13.35  
 Rated speed rpm : 1080  
 Tolerance 1/min : + 5

rack travel mm : 4.00  
 Rated speed rpm : 1180  
 Tolerance 1/min : + 15

rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1300

LOW IDLE

control lever  
position degree : 79.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 350  
rack travel mm : 6.10  
Tolerance mm : ± 0.10

Rated speed rpm : 250

CRT mm min. : > 9.10

Rated speed rpm : 475

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TORQUE CONTROL

Rated speed rpm : 1050  
rack travel mm : 14.35  
Tolerance mm : ± 0.05

Rated speed rpm : 950  
rack travel mm : 13.85  
Tolerance mm : ± 0.10

Rated speed rpm : 900  
rack travel mm : 13.70  
Tolerance mm : ± 0.10

Rated speed rpm : 800  
rack travel mm : 13.35  
Tolerance mm : ± 0.10

Rated speed rpm : 600  
rack travel mm : 12.85  
Tolerance mm : ± 0.10

Rated speed rpm : 500  
rack travel mm : 12.85  
Tolerance mm : ± 0.10

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ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 1050  
Pressure hPa : 1400  
rack travel mm : 14.35  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -

Rated speed rpm : 1050  
rack travel mm : 11.90  
Tolerance mm : ± 0.10

Rated speed rpm : 1050

Pressure hPa : 800  
rack travel mm : 13.75  
Tolerance mm : ± 0.05

Pressure hPa : 650  
rack travel mm : 12.95  
Tolerance mm : ± 0.10

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START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 270

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 290

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FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1600  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 219.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Aneroid pressure  
hPa : 1600  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 204.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 185.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

BREAKAWAY

Rack travel in mm : 13.35  
Rated speed rpm : 1080  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 12.85  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 155.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 14.0

---

LOW IDLE

Rated speed rpm : 350  
rack travel mm : 6.10  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 25.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.09.95  
Test oil : ISO 4113  
Combination No. : 0 400 864 088  
Injection pump  
Pump designation : PES4A85D410/3RS2799  
EP type number : 0 410 884 944  
Governor  
Governor design. : RSV325...1250A2C2253  
: -2L  
Governor no. : 0 420 232 556  
Cust. part No. :

Customer-spec. information  
Customer : KHD  
Motor : BF4L913  
Power KW : 78.0

TEST BENCH REQUIREMENTS

Inlet line : 1.3  
Test oil inlet  
temp. °C : 40  
Tolerance °C : +- 2.0  
Overflow valve : 1 419 992 198  
Inlet press. bar : 1.5  
Test nozzle holde  
assembly : 0 681 343 009  
Opening pressure  
bar : 173.5  
Tolerance bar : +- 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : +- 1.0  
Prestroke mm : 2.50  
Tolerance mm : +- 0.05  
Check  
tolerance mm : +- 0.10  
Rack travel in mm : 10.50  
Tolerance mm : +- 1.50  
Firing order : 1- 3- 4- 2  
Phasing : 0-90-180-270

BASIC SETTING

Rated speed rpm : 1250  
Rack travel in mm : 11.75  
Tolerance mm : +- 0.05  
Del. quantity  
cm3/1000 strokes : 84.5  
Tolerance  
cm3/1000 strokes : +- 0.5  
Check tolerance  
cm3/1000S. : +- 2.5  
Spreed  
Tolerance  
cm3/1000 strokes : 3.0  
Check tolerance  
cm3/1000S. : 7.0  
Rated speed rpm : 325

Rack travel in mm : 7.70  
 Tolerance mm : ± 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 15.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 4.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 4.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 7.0

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : ± 0.20  
 governor spring  
 pre-tension  
 click setting x : 4.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
 Aneroid pressure  
 hPa : 1000  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 84.5  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 0.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 2.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 7.0

CONTROL LEVER

control lever  
 position degree : 102.0  
 tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 10.70  
 Rated speed rpm : 1295  
 Tolerance 1/min : ± 5

rack travel mm : 4.00  
 Rated speed rpm : 1375  
 Tolerance 1/min : ± 15

rack travel mm : 0.85  
 Tolerance mm : ± 0.55  
 Rated speed rpm : 1525

rack travel mm : 4.00  
 Rated speed rpm : 1415

LOW IDLE

control lever  
 position degree : 73.0  
 tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
 rack travel mm : 7.20

Testing:

Rated speed rpm : 325  
 rack travel mm : 7.70  
 Tolerance mm : ± 0.10

rack travel mm : 2.00  
 Rated speed rpm : 580  
 Tolerance 1/min : ± 30

Rated speed rpm : 100

CRT mm min. : > 19.50

TORQUE CONTROL

Rated speed rpm : 1250  
 rack travel mm : 11.75  
 Tolerance mm : ± 0.05

Rated speed rpm : 500  
 rack travel mm : 12.15  
 Tolerance mm : ± 0.05

Rated speed rpm : 800  
 rack travel mm : 12.00  
 Tolerance mm : ± 0.10



---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1000  
rack travel mm : 12.15  
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.85  
Tolerance mm : +- 0.05

Rated speed rpm : 500

Pressure hPa : 230  
rack travel mm : 11.50  
Tolerance mm : +- 0.10

Pressure hPa : 300  
rack travel mm : 11.85  
Tolerance mm : +- 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 520  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 81.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 3.5

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 59.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 3.5

---

BREAKAWAY

Rack travel in mm : 10.70

Rated speed rpm : 1295  
Tolerance 1/min : +- 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 17.80  
Tolerance mm : +- 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 125.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 7.5  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 10.0

---

LOW IDLE

Rated speed rpm : 325  
rack travel mm : 7.70  
Tolerance mm : +- 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 15.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 11.09.95  
 Test oil : ISO 4113  
 Combination No. : 0 400 866 080  
 Injection pump  
 Pump designation : PES6A85D410/3RS2415  
 EP type number : 0 410 886 915  
 Governor  
 Governor design. : RSV325...1400A8C809L  
 Governor no. : 0 420 232 610  
 Cust. part No. : 0423 1249 KY 0150  
 : -17

Customer-spec. information  
 Customer : KHD  
 Motor : BF6L913  
 Power KW : 118.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
 Test oil inlet  
 temp. °C : 40  
 Tolerance °C : ± 2.0  
 Overflow valve : 1 419 992 128  
 Inlet press. bar : 1.5  
 Test nozzle holde  
 assembly : 0 681 343 009  
 Opening pressure  
 bar : 173.5  
 Tolerance bar : ± 1.5  
 Test lines : 1 680 750 014  
 Outside diameter : 6.0

x inside diameter : 2.0  
 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
 Set equal delivery quant.  
 per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
 Tolerance bar : ± 1.0  
 Prestroke mm : 1.95  
 Tolerance mm : ± 0.05  
 Check  
 tolerance mm : ± 0.10  
 Rack travel in mm : 10.50  
 Tolerance mm : ± 1.50  
 Firing order : 1- 5- 3- 6- 2-  
 : 4  
 Phasing : 0-60-120-180-240  
 : -300

BASIC SETTING

Rated speed rpm : 1400  
 Rack travel in mm : 10.85  
 Tolerance mm : ± 0.05  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 76.5  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 0.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 2.5  
 Speed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 7.0

Rated speed rpm : 325  
 Rack travel in mm : 8.00  
 Tolerance mm : + 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 12.5  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 4.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 7.0

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : + 0.20  
 governor spring  
 pre-tension  
 click setting x : 5.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400  
 Aneroid pressure  
 hPa : 700  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 76.5  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 0.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 2.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 7.0

CONTROL LEVER

control lever  
 position degree : 119.0

RATED SPEED

A19

rack travel mm : 9.80  
 Rated speed rpm : 1445  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1485  
 Tolerance 1/min : + 15  
 rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1600  
 rack travel mm : 4.00  
 Rated speed rpm : 1520

LOW IDLE

control lever  
 position degree : 68.0

Setting point w/out bumper spring

Rated speed rpm : 325  
 rack travel mm : 7.50

Testing:

Rated speed rpm : 325  
 rack travel mm : 8.00  
 Tolerance mm : + 0.10

rack travel mm : 2.00  
 Rated speed rpm : 630  
 Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.50

TORQUE CONTROL

Rated speed rpm : 1400  
 rack travel mm : 10.85  
 Tolerance mm : + 0.05

Rated speed rpm : 500  
 rack travel mm : 12.05  
 Tolerance mm : + 0.05

Rated speed rpm : 1040  
 rack travel mm : 11.50  
 Tolerance mm : + 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 700  
rack travel mm : 12.05  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.25  
Tolerance mm : ± 0.05

Rated speed rpm : 500

Pressure hPa : 95  
rack travel mm : 10.70  
Tolerance mm : ± 0.10

Pressure hPa : 360  
rack travel mm : 11.75  
Tolerance mm : ± 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 45.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 2.5

---

BREAKAWAY

Rack travel in mm : 9.80  
Rated speed rpm : 1445  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 17.20  
Tolerance mm : ± 0.20

A20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 110.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 7.5  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 10.0

---

LOW IDLE

Rated speed rpm : 325  
rack travel mm : 8.00  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 4.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.5  
Check tolerance  
cm<sup>3</sup>/1000s. : 7.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 08.09.95  
Test oil : ISO 4113  
  
Combination No. : 0 400 866 221  
  
Injection pump  
Pump designation : PES6A95D410/3RS2876  
EP type number : 0 410 896 886  
  
Governor  
Governor design. : RSV325...900A7C720L  
Governor no. : 0 420 232 339

Cust. part No. : 0 423 1366 KY0150  
                  : -17

Customer-spec. information

Customer : KHD  
Motor : BF6L913C  
Power KW : 102.0

TEST BENCH REQUIREMENTS

Inlet line : 1.3

Test oil inlet  
temp. °C : 40  
Tolerance °C : +- 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : +- 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

A21

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : +- 1.0

Prestroke mm : 2.65  
Tolerance mm : +- 0.05  
Check  
tolerance mm : +- 0.10

Rack travel in mm : 10.50  
Tolerance mm : +- 1.50

Firing order : 1- 5- 3- 6- 2-  
                  : 4

Phasing : 0-60-120-180-240  
          : -300  
Tolerance : +- 0.50  
Check  
tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 900

Rack travel in mm : 13.10  
Tolerance mm : +- 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 92.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0

Check tolerance  
cm<sup>3</sup>/1000s. : +- 3.0

Speed

Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  


---

 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0  
  
 Rated speed rpm : 325  
  
 Rack travel in mm : 6.80  
 Tolerance mm : + 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 12.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
  
 Rack travel in mm : 0.50  
 Tolerance mm : + 0.20  
  
 governor spring  
 pre-tension  
 click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 92.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 3.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

CONTROL LEVER

control lever  
 position degree : 99.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 12.10  
 Rated speed rpm : 945  
 Tolerance 1/min : + 5

rack travel mm : 4.00  
 Rated speed rpm : 965  
 Tolerance 1/min : + 15

rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1100

rack travel mm : 4.00  
 Rated speed rpm : 985

LOW IDLE

control lever  
 position degree : 66.0  
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
 rack travel mm : 6.30

Testing:

Rated speed rpm : 325  
 rack travel mm : 6.80  
 Tolerance mm : + 0.10

rack travel mm : 2.00  
 Rated speed rpm : 400  
 Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 900  
 rack travel mm : 13.10  
 Tolerance mm : + 0.05

Rated speed rpm : 600  
 rack travel mm : 13.15  
 Tolerance mm : + 0.05

---

BREAKAWAY

Rack travel in mm : 12.10  
Rated speed rpm : 945  
Tolerance 1/min :  $\pm$  5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 13.70  
Tolerance mm :  $\pm$  0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 105.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  7.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  10.0

---

LOW IDLE

Rated speed rpm : 325  
rack travel mm : 6.80  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 06.09.95
Test oil : ISO 4113
Combination No. : 0 402 046 789
Injection pump
Pump designation : PES6P120A320RS3139
EP type number : 0 412 026 718
Governor
Governor design. : RQV275...1000PA728
Governor no. : 0 421 813 657
Cust. part No. : CCEP 5070 -116

Customer-spec. information
Customer : RVI
Motor : MIDR 062045 H
Power KW : 227.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1
Test oil inlet temp. °C : 40
Tolerance °C : +- 2.0
Overflow valve : 2 417 413 071
Inlet press. bar : 2.5
Test nozzle holder assembly : 1 688 901 019
Opening pressure bar : 208.5
Tolerance bar : +- 1.5
Test lines : 1 680 750 075
Outside diameter : 8.0

x inside diameter : 3.0
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant. per values

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : +- 1.0
Prestroke mm : 3.55
Tolerance mm : +- 0.05
Check tolerance mm : +- 0.10
Rack travel in mm : 10.50
Tolerance mm : +- 1.50
Firing order : 1- 5- 3- 6- 2-
: 4
Phasing : 0-60-120-180-240
: -300
Tolerance : +- 0.30
Check tolerance °NW : +- 0.50
Start of delivery mark
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000
Rack travel in mm : 11.15
Tolerance mm : +- 0.05
Del. quantity cm3/1000 strokes : 197.0
Tolerance cm3/1000 strokes : +- 1.0
Check tolerance cm3/1000S. : +- 4.0



---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Del. quantity  
cm<sup>3</sup>/1000 strokes : 27.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 5.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

Rated speed rpm : 1170

Rack travel in mm : 16.50  
Tolerance mm : +- 1.30

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
Aneroid pressure  
hPa : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 197.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

CONTROL LEVER

control lever  
position degree : 119.0  
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : -1.00  
Rated speed rpm : 1080  
Tolerance 1/min : +- 5

rack travel mm : -7.15  
Rated speed rpm : 1195  
Tolerance 1/min : +- 15

rack travel mm : -10.65  
Tolerance mm : +- 0.50  
Rated speed rpm : 1300

---

LOW IDLE

control lever  
position degree : 67.0  
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 275  
rack travel mm : -5.30  
Tolerance mm : +- 0.15

Rated speed rpm : 200

CRT mm max. : < -3.80

Rated speed rpm : 370

---

TORQUE CONTROL

Rated speed rpm : 600

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1000

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : -2.20  
Tolerance mm : +- 0.20

Rated speed rpm : 500

Pressure hPa : 160  
rack travel mm : -1.70

Tolerance mm :  $\pm$  0.10  
Pressure hPa : 280  
rack travel mm : -0.75  
Tolerance mm :  $\pm$  0.05

---

#### START CUT-OUT

Rated speed rpm :  $>$  100  
Rated speed rpm :  $<$  195  
Check speed 1/min :  $>$  80  
Check speed 1/min :  $<$  215

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1000  
Rated speed rpm : 600  
Del. quantity cm<sup>3</sup>/1000 strokes : 197.0  
Tolerance cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  6.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm<sup>3</sup>/1000 strokes : 104.0  
Tolerance cm<sup>3</sup>/1000 strokes :  $\pm$  1.0  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  4.0

---

#### BREAKAWAY

Rack travel in mm : -1.00  
Rated speed rpm : 1080  
Tolerance 1/min :  $\pm$  5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity cm<sup>3</sup>/1000 strokes : 145.0  
Tolerance cm<sup>3</sup>/1000 strokes :  $\pm$  10.0  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  14.0

---

#### LOW IDLE

Del. quantity cm<sup>3</sup>/1000 strokes : 27.0  
Tolerance cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance cm<sup>3</sup>/1000S. :  $\pm$  5.0  
Speed Tolerance cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 24.08.95  
Test oil : ISO 4113  
  
Combination No. : 0 400 464 116  
  
Injection pump  
Pump designation : PES4A75D410/3RS1255  
EP type number : 0 410 474 966  
  
Governor  
Governor design. : RSV325...900A7C602L  
Governor no. : 0 420 232 320  
  
Cust. part No. :

Customer-spec. information  
Customer : KHD  
Motor : F4L912

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0  
  
Overflow valve : 1 417 413 000  
  
Inlet press. bar : 1.0  
  
Test nozzle holder  
assembly : 0 681 343 009  
  
Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5  
  
Test lines : 1 680 750 014  
  
Outside diameter : 6.0  
  
x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0  
  
Firing order : 1- 3- 4- 2  
  
Phasing : 0-90-180-270  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 880  
  
Rack travel in mm : 11.25  
Tolerance mm : + 0.05  
  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 44.0  
  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 0.5  
  
Check tolerance  
cm<sup>3</sup>/1000S. : + 2.0  
  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.0  
  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.5  
  
Rated speed rpm : 325  
  
Rack travel in mm : 8.70  
Tolerance mm : + 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
Rack travel in mm : 0.65  
Tolerance mm : + 0.35

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 880  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 44.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 2.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.5

---

CONTROL LEVER

control lever  
position degree : 54.0  
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.20  
Rated speed rpm : 925  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 960  
Tolerance 1/min : + 15

rack travel mm : 1.00  
Tolerance mm : + 0.70  
Rated speed rpm : 1050

---

LOW IDLE

control lever  
position degree : 25.0  
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
rack travel mm : 8.70

Testing:

Rated speed rpm : 325  
rack travel mm : 8.20  
Tolerance mm : + 0.10

rack travel mm : 2.00  
Rated speed rpm : 450  
Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.50

---

TORQUE CONTROL

Rated speed rpm : 880  
rack travel mm : 11.25  
Tolerance mm : + 0.05

Rated speed rpm : 500  
rack travel mm : 11.30  
Tolerance mm : + 0.10

---

BREAKAWAY

Rack travel in mm : 10.20  
Rated speed rpm : 925  
Tolerance 1/min : + 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100

---

LOW IDLE

Rated speed rpm : 325  
rack travel mm : 8.70  
Tolerance mm : +- 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 04.05.95  
Test oil : ISO 4113  
Combination No. : 0 400 464 118  
Injection pump  
Pump designation : PES4A75D410/3RS1255  
EP type number : 0 410 474 966  
Governor  
Governor design. : RSV325...1400A8C742L  
Governor no. : 0 420 232 342

Cust. part No. :

Customer-spec. information  
Customer : KHD  
Motor : F4L912

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet temp. °C : 40  
Tolerance °C : +- 2.0  
Overflow valve : 1 419 992 198  
Inlet press. bar : 1.5  
Test nozzle holder assembly : 0 681 343 009  
Opening pressure bar : 173.5  
Tolerance bar : +- 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0  
x inside diameter : 2.0

x Length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : +- 1.0  
Firing order : 1- 3- 4- 2  
Phasing : 0-90-180-270  
Tolerance : +- 0.50  
Check tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1400  
Rack travel in mm : 11.55  
Tolerance mm : +- 0.05  
Del. quantity cm3/1000 strokes : 55.5  
Tolerance cm3/1000 strokes : +- 0.5  
Check tolerance cm3/1000S. : +- 2.0  
Speed Tolerance cm3/1000 strokes : 2.0  
Check tolerance cm3/1000S. : 3.5  
Rated speed rpm : 325  
Rack travel in mm : 6.00  
Tolerance mm : +- 0.20  
Del. quantity cm3/1000 strokes : 12.0  
Tolerance cm3/1000 strokes : +- 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
Rack travel in mm : 0.50  
Tolerance mm : + 0.20  
governor spring  
pre-tension  
click setting x : 4.75

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 55.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 2.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.5

CONTROL LEVER

control lever  
position degree : 72.0  
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.00  
Rated speed rpm : 1445  
Tolerance 1/min : + 5  
rack travel mm : 4.00  
Rated speed rpm : 1485  
Tolerance 1/min : + 15

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1600

rack travel mm : 4.00  
Rated speed rpm : 1500

LOW IDLE

control lever  
position degree : 14.0  
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
rack travel mm : 5.50

Testing:

Rated speed rpm : 325  
rack travel mm : 6.00  
Tolerance mm : + 0.10

rack travel mm : 2.00  
Rated speed rpm : 550  
Tolerance 1/min : + 30

TORQUE CONTROL

Dimension a mm : 0.90  
Rated speed rpm : 1400  
rack travel mm : 11.55  
Tolerance mm : + 0.05

Rated speed rpm : 500  
rack travel mm : 12.45  
Tolerance mm : + 0.05

Rated speed rpm : 900  
rack travel mm : 12.30  
Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 51.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

---

#### BREAKAWAY

Rack travel in mm : 10.00  
Rated speed rpm : 1445  
Tolerance 1/min : ± 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.25  
Tolerance mm : ± 0.75  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 110.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 8.0

---

#### LOW IDLE

Rated speed rpm : 325  
rack travel mm : 6.00  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 27.07.92  
Test oil : ISO 4113  
Combination No. : 0 400 466 099  
Injection pump  
Pump designation : PES6A75D410/3RS1360  
EP type number : 0 410 476 976  
Governor  
Governor design. : RSV325...1150A8C494  
: -4L  
Governor no. : 0 420 232 572

Cust. part No. :

Customer-spec. information

Customer : KHD  
Motor : F6L912  
Power KW : 74.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 419 992 198  
Inlet press. bar : 1.5  
Test nozzle holder  
assembly : 0 681 343 009  
Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5  
Test Lines : 1 680 750 014  
Outside diameter : 6.0

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x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1150  
Rack travel in mm : 11.15  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 52.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 2.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.0  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
Rack travel in mm : 0.65  
Tolerance mm : + 0.35  
governor spring  
pre-tension  
click setting x : 4.20

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 52.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 2.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.0

---

CONTROL LEVER

control lever  
position degree : 106.0  
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.10  
Rated speed rpm : 1195  
Tolerance 1/min : + 5  
rack travel mm : 4.00  
Rated speed rpm : 1240  
Tolerance 1/min : + 15

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1350

rack travel mm : 4.00  
Rated speed rpm : 1250

---

LOW IDLE

control lever  
position degree : 71.0  
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
rack travel mm : 7.20

Testing:

Rated speed rpm : 325  
rack travel mm : 6.70  
Tolerance mm : + 0.10

rack travel mm : 2.00  
Rated speed rpm : 465  
Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.50

---

TORQUE CONTROL

Rated speed rpm : 1150  
rack travel mm : 11.15  
Tolerance mm : + 0.05

Rated speed rpm : 750  
rack travel mm : 12.40  
Tolerance mm : + 0.10

Rated speed rpm : 950  
rack travel mm : 11.70  
Tolerance mm : + 0.10

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 750

Del. quantity  
cm<sup>3</sup>/1000 strokes : 56.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

---

#### BREAKAWAY

Rack travel in mm : 10.10  
Rated speed rpm : 1195  
Tolerance 1/min : ± 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.25  
Tolerance mm : ± 0.75  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 8.0

---

#### LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.5

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 29.05.95  
Test oil : ISO 4113  
Combination No. : 0 400 863 012  
Injection pump  
Pump designation : PES3A85D410/3RS2731  
EP type number : 0 410 883 988  
Governor  
Governor design. : RSV325...1250A2C2168  
: -3L  
Governor no. : 0 420 232 475  
Cust. part No. :

Customer-spec. information  
Customer : KHD  
Motor : F3L913  
Power KW : 44.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : +- 2.0  
Overflow valve : 1 417 413 000  
Inlet press. bar : 1.0  
Test nozzle holder  
assembly : 0 681 343 009  
Opening pressure  
bar : 173.5  
Tolerance bar : +- 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : +- 1.0  
Firing order : 1- 3- 2  
Phasing : 0-120-240  
Tolerance : +- 0.50  
Check  
tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1250  
Rack travel in mm : 9.95  
Tolerance mm : +- 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 69.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 2.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.0  
Rated speed rpm : 325  
Rack travel in mm : 6.30  
Tolerance mm : +- 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0

Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : +- 5.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 2.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 4.5

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : +- 0.20  
 governor spring  
 pre-tension  
 click setting x : 4.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 69.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 0.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : +- 2.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 5.0

CONTROL LEVER

control lever  
 position degree : 95.0  
 tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 8.90  
 Rated speed rpm : 1295  
 Tolerance 1/min : +- 5  
 rack travel mm : 4.00

Rated speed rpm : 1330  
 Tolerance 1/min : +- 15  
 rack travel mm : 0.85  
 Tolerance mm : +- 0.55  
 Rated speed rpm : 1500  
 rack travel mm : 4.00  
 Rated speed rpm : 1345

LOW IDLE

control lever  
 position degree : 66.0  
 tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
 rack travel mm : 5.80

Testing:

Rated speed rpm : 325  
 rack travel mm : 6.30  
 Tolerance mm : +- 0.10

rack travel mm : 2.00  
 Rated speed rpm : 490  
 Tolerance 1/min : +- 30

Rated speed rpm : 100

CRT mm min. : > 19.50

TORQUE CONTROL

Dimension a mm : 0.40  
 Rated speed rpm : 1250  
 rack travel mm : 9.95  
 Tolerance mm : +- 0.05

Rated speed rpm : 500  
 rack travel mm : 10.25  
 Tolerance mm : +- 0.05

Rated speed rpm : 960  
 rack travel mm : 10.00  
 Tolerance mm : +- 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 59.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 3.5

---

BREAKAWAY

Rack travel in mm : 8.90  
Rated speed rpm : 1295  
Tolerance 1/min : +- 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 17.10  
Tolerance mm : +- 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 8.0

---

LOW IDLE

Rated speed rpm : 325  
rack travel mm : 6.30  
Tolerance mm : +- 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.5

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 28.04.95  
 Test oil : ISO 4113  
 Combination No. : 0 400 863 014  
 Injection pump  
 Pump designation : PES3A85D410/3RS2642  
 EP type number : 0 410 883 989  
 Governor  
 Governor design. : RSV325...1000A8C2102  
 : -2L  
 Governor no. : 0 420 232 507  
 Cust. part No. :

---

Customer-spec. information  
 Customer : KHD  
 Motor : F3L913  
 Power KW : 37.0

---

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
 Test oil inlet  
 temp. °C : 40  
 Tolerance °C : ± 2.0  
 Overflow valve : 1 417 413 000  
 Inlet press. bar : 1.5  
 Test nozzle holder  
 assembly : 0 681 343 009  
 Opening pressure  
 bar : 173.5  
 Tolerance bar : ± 1.5  
 Test lines : 1 680 750 014  
 Outside diameter : 6.0

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x inside diameter : 2.0  
 x length mm : 600

---

REMARKS

(A) INJECTION PUMP SETTING VALUES  
 Set equal delivery quant.  
 per values \_\_\_\_\_

---

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
 Tolerance bar : ± 1.0  
 Firing order : 1- 3- 2  
 Phasing : 0-120-240  
 Tolerance : ± 0.50  
 Check  
 tolerance °NW : ± 0.75

---

BASIC SETTING

Rated speed rpm : 1000  
 Rack travel in mm : 10.05  
 Tolerance mm : ± 0.05  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 63.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 0.5  
 Check tolerance  
 cm<sup>3</sup>/1000s. : ± 2.5  
 Speed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000s. : 5.0  
 Rated speed rpm : 325  
 Rack travel in mm : 7.60  
 Tolerance mm : ± 0.20  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 12.0

Tolerance  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 5.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 2.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 4.5

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : + 0.20  
 governor spring  
 pre-tension  
 click setting x : 4.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 63.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 0.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 2.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 5.0

CONTROL LEVER

control lever  
 position degree : 94.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 9.00  
 Rated speed rpm : 1045  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00

Rated speed rpm : 1075  
 Tolerance 1/min : + 15  
 rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1240

rack travel mm : 4.00  
 Rated speed rpm : 1090

LOW IDLE

control lever  
 position degree : 67.0  
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
 rack travel mm : 7.10

Testing:

Rated speed rpm : 325  
 rack travel mm : 7.60  
 Tolerance mm : + 0.10

rack travel mm : 2.00  
 Rated speed rpm : 440  
 Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.50

TORQUE CONTROL

Dimension a mm : 0.50  
 Rated speed rpm : 1000  
 rack travel mm : 10.05  
 Tolerance mm : + 0.05

Rated speed rpm : 500  
 rack travel mm : 10.55  
 Tolerance mm : + 0.05

Rated speed rpm : 855  
 rack travel mm : 10.30  
 Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS



Aneroid pressure  
hPa : -  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 60.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.5

---

#### BREAKAWAY

Rack travel in mm : 9.00  
Rated speed rpm : 1045  
Tolerance 1/min : ± 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.25  
Tolerance mm : ± 0.75  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 140.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 8.0

---

#### LOW IDLE

Rated speed rpm : 325  
rack travel mm : 7.60  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.5

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 17.06.95  
 Test oil : ISO 4113  
 Combination No. : 0 400 864 054  
 Injection pump  
 Pump designation : PES4A85D410/3RS2638  
 EP type number : 0 410 884 950  
 Governor  
 Governor design. : RSV325...115QA0C2168  
 : L  
 Governor no. : 0 420 232 364  
 Cust. part No. :

Customer-spec. information

Customer : KHD  
 Motor : BF4L913  
 Power KW : 66.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
 Test oil inlet  
 temp. °C : 40  
 Tolerance °C : ± 2.0  
 Overflow valve : 1 417 413 000  
 Inlet press. bar : 1.5  
 Test nozzle holde  
 assembly : 0 681 343 009  
 Opening pressure  
 bar : 173.5  
 Tolerance bar : ± 1.5  
 Test lines : 1 680 750 014  
 Outside diameter : 6.0

x inside diameter : 2.0  
 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
 Set equal delivery quant.  
 per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
 Tolerance bar : ± 1.0  
 Firing order : 1- 3- 4- 2  
 Phasing : 0-90-180-270  
 Tolerance : ± 0.50  
 Check  
 tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1110

Rack travel in mm : 12.35  
 Tolerance mm : ± 0.05

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 80.5

Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 0.5

Check tolerance  
 cm<sup>3</sup>/1000S. : ± 2.5

Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.0

Check tolerance  
 cm<sup>3</sup>/1000S. : 4.5

Rated speed rpm : 325

Rack travel in mm : 7.70  
 Tolerance mm : ± 0.20

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 12.0

Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : +- 5.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 4.0

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : +- 0.20  
 governor spring  
 pre-tension  
 click setting x : 4.75

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1110  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 80.5  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 0.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : +- 2.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 4.5

CONTROL LEVER

control lever  
 position degree : 105.0  
 tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 11.30  
 Rated speed rpm : 1160  
 Tolerance 1/min : +- 5  
 rack travel mm : 4.00

Rated speed rpm : 1265  
 Tolerance 1/min : +- 15  
 rack travel mm : 0.85  
 Tolerance mm : +- 0.55  
 Rated speed rpm : 1430  
 rack travel mm : 4.00  
 Rated speed rpm : 1335

LOW IDLE

control lever  
 position degree : 81.0  
 tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
 rack travel mm : 7.70

Testing:

Rated speed rpm : 325  
 rack travel mm : 7.20  
 Tolerance mm : +- 0.10

rack travel mm : 2.00  
 Rated speed rpm : 555  
 Tolerance 1/min : +- 25

Rated speed rpm : 100

CRT mm min. : > 19.50

TORQUE CONTROL

Rated speed rpm : 1110  
 rack travel mm : 12.35  
 Tolerance mm : +- 0.05

Rated speed rpm : 500  
 rack travel mm : 13.15  
 Tolerance mm : +- 0.05

Rated speed rpm : 940  
 rack travel mm : 12.80  
 Tolerance mm : +- 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 80.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 3.5

---

#### BREAKAWAY

Rack travel in mm : 11.30  
Rated speed rpm : 1160  
Tolerance 1/min : +- 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 17.00  
Tolerance mm : +- 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 105.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 8.0

---

#### LOW IDLE

Rated speed rpm : 325  
rack travel mm : 7.70  
Tolerance mm : +- 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.0

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End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 18.09.95
Test oil : ISO 4113
Combination No. : 0 400 864 087
Injection pump
Pump designation : PES4A85D410/3RS2799
EP type number : 0 410 884 944
Governor
Governor design. : RSV325...1075A8C2253
Governor no. : 0 420 232 555
Cust. part No. :

Customer-spec. information

Customer : KHD
Motor : BF4L913
Power KW : 65.0

TEST BENCH REQUIREMENTS

Inlet line : 1.3
Test oil inlet temp. °C : 40
Tolerance °C : ± 2.0
Overflow valve : 1 419 922 198
Inlet press. bar : 1.5
Test nozzle holder assembly : 0 681 343 009
Opening pressure bar : 173.5
Tolerance bar : ± 1.5
Test lines : 1 680 750 014
Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant. per values

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : ± 1.0

Prestroke mm : 2.55
Tolerance mm : ± 0.05
Check tolerance mm : ± 0.10

Rack travel in mm : 10.50
Tolerance mm : ± 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270
Tolerance : ± 0.50
Check tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 980

Rack travel in mm : 11.60
Tolerance mm : ± 0.05

Del. quantity cm3/1000 strokes : 78.5

Tolerance cm3/1000 strokes : ± 0.5

Check tolerance cm3/1000s. : ± 2.5

Speed Tolerance cm3/1000 strokes : 3.0

Check tolerance  
 cm<sup>3</sup>/1000S. : 7.0  
 Rated speed rpm : 475  
 Rack travel in mm : 7.20  
 Tolerance mm : ± 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 14.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 4.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 4.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 7.0

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : ± 0.20  
 governor spring  
 pre-tension  
 click setting x : 4.75

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 980  
 Aneroid pressure  
 hPa : 1000  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 78.5  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 0.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 2.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 7.0

CONTROL LEVER

control lever  
 position degree : 101.0

tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 10.60  
 Rated speed rpm : 1025  
 Tolerance 1/min : ± 5

rack travel mm : 4.00  
 Rated speed rpm : 1085  
 Tolerance 1/min : ± 15

rack travel mm : 0.85  
 Tolerance mm : ± 0.55  
 Rated speed rpm : 1250

rack travel mm : 4.00  
 Rated speed rpm : 1100

LOW IDLE

control lever  
 position degree : 77.0  
 tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 475  
 rack travel mm : 6.70

Testing:

Rated speed rpm : 475  
 rack travel mm : 7.20  
 Tolerance mm : ± 0.10

rack travel mm : 2.00  
 Rated speed rpm : 590

TORQUE CONTROL

Rated speed rpm : 980  
 rack travel mm : 11.60  
 Tolerance mm : ± 0.05

Rated speed rpm : 500  
 rack travel mm : 12.15  
 Tolerance mm : ± 0.05

Rated speed rpm : 700  
 rack travel mm : 12.10  
 Tolerance mm : ± 0.05

Rated speed rpm : 825  
 rack travel mm : 11.80  
 Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1000  
rack travel mm : 12.15  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 11.00  
Tolerance mm : ± 0.05

Rated speed rpm : 500

Pressure hPa : 310  
rack travel mm : 11.30  
Tolerance mm : ± 0.10

Pressure hPa : 400  
rack travel mm : 11.60  
Tolerance mm : ± 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1000  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 79.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.5

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 59.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 2.5

---

BREAKAWAY

Rack travel in mm : 10.60

Rated speed rpm : 1025  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 17.80  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 125.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 7.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 10.0

---

LOW IDLE

Rated speed rpm : 475  
rack travel mm : 7.20  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 14.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

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End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 30.05.95  
Test oil : ISO 4113  
Combination No. : 0 400 864 089  
Injection pump  
Pump designation : PES4A85D410/3RS2799  
EP type number : 0 410 884 944  
Governor  
Governor design. : RSV325...1075A8C2253  
: -3L  
Governor no. : 0 420 232 547  
Cust. part No. :

Customer-spec. information

Customer : KHD  
Motor : BF4L913  
Power KW : 70.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 417 413 000  
Inlet press. bar : 1.5  
Test nozzle holder  
assembly : 0 681 343 009  
Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
Firing order : 1- 3- 4- 2  
Phasing : 0-90-180-270  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1075  
Rack travel in mm : 11.95  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 80.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 2.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 5.0  
Rated speed rpm : 325  
Rack travel in mm : 8.30  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 15.0



Tolerance  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 5.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 2.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 4.5

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : + 0.20  
 governor spring  
 pre-tension  
 click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1075  
 Aneroid pressure  
 hPa : 1000  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 80.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 0.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 2.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 5.0

CONTROL LEVER

control lever  
 position degree : 99.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.90  
 Rated speed rpm : 1120  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00

Rated speed rpm : 1165  
 Tolerance 1/min : + 15  
 rack travel mm : 1.00  
 Tolerance mm : + 0.70  
 Rated speed rpm : 1315

LOW IDLE

control lever  
 position degree : 68.0  
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 325  
 rack travel mm : 8.30  
 Tolerance mm : + 0.10  
 rack travel mm : 2.00  
 Rated speed rpm : 380  
 Tolerance 1/min : + 30  
 Rated speed rpm : 100  
 CRT mm min. : > 19.50

SET IDLE AUXILIARY SPRING

Rated speed rpm : 100

TORQUE CONTROL

Rated speed rpm : 1075  
 rack travel mm : 11.95  
 Tolerance mm : + 0.05  
 Rated speed rpm : 500  
 rack travel mm : 12.45  
 Tolerance mm : + 0.05  
 Rated speed rpm : 860  
 rack travel mm : 12.30  
 Tolerance mm : + 0.10

ANEROID/ALTITUDE  
 COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
 Pressure hPa : 1000  
 rack travel mm : 12.45  
 Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 11.45  
Tolerance mm : + 0.05

Rated speed rpm : 500

Pressure hPa : 250  
rack travel mm : 11.80  
Tolerance mm : + 0.10

Pressure hPa : 330  
rack travel mm : 12.05  
Tolerance mm : + 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1000  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 80.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.5

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 58.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

---

BREAKAWAY

Rack travel in mm : 10.90  
Rated speed rpm : 1120  
Tolerance 1/min : + 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 18.20  
Tolerance mm : + 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 8.0

---

LOW IDLE

Rated speed rpm : 325  
rack travel mm : 8.30  
Tolerance mm : + 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 15.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 5.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.5

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End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 17.06.95  
Test oil : ISO 4113  
Combination No. : 0 400 865 017  
Injection pump  
Pump designation : PES5A80D410/3RS2526  
EP type number : 0 410 885 004  
Governor  
Governor design. : RSV325...1400A8C540L  
Governor no. : 0 420 232 311

Cust. part No. :

Customer-spec. information  
Customer : KHD  
Motor : F5L912  
Power KW : 62.5

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet temp. °C : 40  
Tolerance °C : + 2.0  
Overflow valve : 1 417 413 000  
Inlet press. bar : 1.0  
Test nozzle holder assembly : 0 681 343 009  
Opening pressure bar : 173.5  
Tolerance bar : + 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant. per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0  
Firing order : 1- 3- 5- 4- 2  
Phasing : 0-72-144-216-288  
Tolerance : + 0.50  
Check tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1380  
Rack travel in mm : 11.55  
Tolerance mm : + 0.05  
Del. quantity cm<sup>3</sup>/1000 strokes : 65.5  
Tolerance cm<sup>3</sup>/1000 strokes : + 0.5  
Check tolerance cm<sup>3</sup>/1000S. : + 2.0  
Spreed Tolerance cm<sup>3</sup>/1000 strokes : 2.0  
Check tolerance cm<sup>3</sup>/1000S. : 3.5  
Rated speed rpm : 325  
Rack travel in mm : 8.10  
Tolerance mm : + 0.10  
Del. quantity cm<sup>3</sup>/1000 strokes : 9.0

Tolerance  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 3.0

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.65  
 Tolerance mm : + 0.35  
 governor spring  
 pre-tension  
 click setting x : 5.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1380  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 65.5  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 0.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 2.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 3.5

CONTROL LEVER

control lever  
 position degree : 116.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.50  
 Rated speed rpm : 1425  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00

Rated speed rpm : 1470  
 Tolerance 1/min : + 15  
 rack travel mm : 1.00  
 Tolerance mm : + 0.70  
 Rated speed rpm : 1650  
 rack travel mm : 4.00  
 Rated speed rpm : 1520

LOW IDLE

control lever  
 position degree : 69.0  
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
 rack travel mm : 8.10

Testing:

Rated speed rpm : 325  
 rack travel mm : 7.60  
 Tolerance mm : + 0.10

rack travel mm : 2.00  
 Rated speed rpm : 655  
 Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 1380  
 rack travel mm : 11.55  
 Tolerance mm : + 0.05

Rated speed rpm : 500  
 rack travel mm : 12.75  
 Tolerance mm : + 0.05

Rated speed rpm : 900  
 rack travel mm : 12.25  
 Tolerance mm : + 0.15

BREAKAWAY

Rack travel in mm : 10.50  
 Rated speed rpm : 1425  
 Tolerance 1/min : + 5

---

LOW IDLE

Rated speed rpm : 325  
rack travel mm : 8.10  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 9.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 31.10.84  
Test oil : ISO 4113  
Combination No. : 0 400 866 078  
Injection pump  
Pump designation : PES6A85D410/3RS2415  
EP type number : 0 410 886 915  
Governor  
Governor design. : RSV325...900A7C720L  
Governor no. : 0 420 232 339

Cust. part No. :

Customer-spec. information  
Customer : KHD  
Motor : BF6L913

## TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 417 413 000  
Inlet press. bar : 1.0  
Test nozzle holder  
assembly : 0 681 343 009  
Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0  
x inside diameter : 2.0

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x Length mm : 600

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

## BASIC SETTING

Rated speed rpm : 900  
Rack travel in mm : 11.85  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 68.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 2.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.5  
Rated speed rpm : 325  
Rack travel in mm : 8.10  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 68.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 2.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.5

RATED SPEED

rack travel mm : 10.80  
Rated speed rpm : 945  
Tolerance 1/min : + 5  
  
rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1100  
  
rack travel mm : 4.00  
Rated speed rpm : 995

LOW IDLE

Setting point w/out bumper spring

Rated speed rpm : 325  
rack travel mm : 7.60

Testing:

Rated speed rpm : 325  
rack travel mm : 8.10

B27

Tolerance mm : + 0.10

TORQUE CONTROL

Rated speed rpm : 900  
rack travel mm : 11.85  
Tolerance mm : + 0.05

Rated speed rpm : 600  
rack travel mm : 12.35  
Tolerance mm : + 0.05

Rated speed rpm : 800  
rack travel mm : 12.15  
Tolerance mm : + 0.15

BREAKAWAY

Rack travel in mm : 10.80  
Rated speed rpm : 945  
Tolerance 1/min : + 5

LOW IDLE

Rated speed rpm : 325  
rack travel mm : 8.10  
Tolerance mm : + 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.0

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 29.05.95  
Test oil : ISO 4113  
Combination No. : 0 400 866 080  
Injection pump  
Pump designation : PES6A85D410/3RS2415  
EP type number : 0 410 886 915  
Governor  
Governor design. : RSV325...1400A8C707  
                  : -4L  
Governor no. : 0 420 232 461  
Cust. part No. :

Customer-spec. information  
Customer : KHD  
Motor : BF6L913

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0  
Overflow valve : 1 417 413 000  
Inlet press. bar : 1.0  
Test nozzle holder  
assembly : 0 681 343 009  
Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0  
Firing order : 1- 5- 3- 6- 2-  
                  : 4  
Phasing : 0-60-120-180-240  
          : -300  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1400  
Rack travel in mm : 10.85  
Tolerance mm : + 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 76.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 2.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.5  
Rated speed rpm : 325  
Rack travel in mm : 8.00  
Tolerance mm : + 0.20



Del. quantity  
 cm<sup>3</sup>/1000 strokes : 12.5  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 5.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 4.0

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : ± 0.20  
 governor spring  
 pre-tension  
 click setting x : 5.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400  
 Aneroid pressure  
 hPa : 700  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 76.5  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 0.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 2.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 4.5

CONTROL LEVER

control lever  
 position degree : 119.0  
 tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 9.80  
 Rated speed rpm : 1445  
 Tolerance 1/min : ± 5

C01

rack travel mm : 4.00  
 Rated speed rpm : 1485  
 Tolerance 1/min : ± 15

rack travel mm : 0.85  
 Tolerance mm : ± 0.55  
 Rated speed rpm : 1600

rack travel mm : 4.00  
 Rated speed rpm : 1520

LOW IDLE

control lever  
 position degree : 68.0  
 tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
 rack travel mm : 7.50

Testing:

Rated speed rpm : 325  
 rack travel mm : 8.00  
 Tolerance mm : ± 0.10

rack travel mm : 2.00  
 Rated speed rpm : 630  
 Tolerance 1/min : ± 30

Rated speed rpm : 100

CRT mm min. : > 19.50

TORQUE CONTROL

Dimension a mm : 1.20  
 Rated speed rpm : 1400  
 rack travel mm : 10.85  
 Tolerance mm : ± 0.05

Rated speed rpm : 500  
 rack travel mm : 12.05  
 Tolerance mm : ± 0.05

Rated speed rpm : 1040  
 rack travel mm : 11.50  
 Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 700  
rack travel mm : 12.05  
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.25  
Tolerance mm : +- 0.05

Rated speed rpm : 500

Pressure hPa : 95  
rack travel mm : 10.70  
Tolerance mm : +- 0.10

Pressure hPa : 360  
rack travel mm : 11.75  
Tolerance mm : +- 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 45.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 3.5

---

BREAKAWAY

Rack travel in mm : 9.80  
Rated speed rpm : 1445  
Tolerance 1/min : +- 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 17.20  
Tolerance mm : +- 0.10

CO2

Del. quantity  
cm<sup>3</sup>/1000 strokes : 110.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 8.0

---

LOW IDLE

Rated speed rpm : 325  
rack travel mm : 8.00  
Tolerance mm : +- 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 5.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 23.08.95  
Test oil : ISO 4113  
Combination No. : 0 400 866 152  
Injection pump  
Pump designation : PES6A85D410/3RS2783  
EP type number : 0 410 886 893  
Governor  
Governor design. : RSV325...1250A5C2239  
: L  
Governor no. : 0 420 232 526

Cust. part No. :

Customer-spec. information

Customer : KHD  
Motor : F6L912F  
Power KW : 82.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 417 413 000  
Inlet press. bar : 1.5  
Test nozzle holder  
assembly : 0 681 343 009  
Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1235  
Rack travel in mm : 11.85  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 70.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 2.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.0  
Rated speed rpm : 325  
Rack travel in mm : 6.00  
Tolerance mm : ± 0.20

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 11.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 5.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 2.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 4.5

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : ± 0.20  
 governor spring  
 pre-tension  
 click setting x : 4.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1235  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 70.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 0.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 2.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 5.0

CONTROL LEVER

control lever  
 position degree : 107.0  
 tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 10.80  
 Rated speed rpm : 1280  
 Tolerance 1/min : ± 5

rack travel mm : 4.00  
 Rated speed rpm : 1345  
 Tolerance 1/min : ± 15

rack travel mm : 0.85  
 Tolerance mm : ± 0.55  
 Rated speed rpm : 1510

rack travel mm : 4.00  
 Rated speed rpm : 1360

LOW IDLE

control lever  
 position degree : 73.0  
 tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
 rack travel mm : 6.00

Testing:

Rated speed rpm : 325  
 rack travel mm : 5.50  
 Tolerance mm : ± 0.10

rack travel mm : 2.00  
 Rated speed rpm : 450  
 Tolerance 1/min : ± 30

Rated speed rpm : 100

CRT mm min. : > 19.50

TORQUE CONTROL

Rated speed rpm : 1235  
 rack travel mm : 11.85  
 Tolerance mm : ± 0.05

Rated speed rpm : 750  
 rack travel mm : 11.90  
 Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
 hPa : -  
 Rated speed rpm : 750

Del. quantity  
cm<sup>3</sup>/1000 strokes : 56.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.5

Aneroid pressure  
hPa : -  
Rated speed rpm : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 65.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.5

---

BREAKAWAY

Rack travel in mm : 10.80  
Rated speed rpm : 1280  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.25  
Tolerance mm : ± 0.75  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 110.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 8.0

---

LOW IDLE

Rated speed rpm : 325  
rack travel mm : 6.00  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.5

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 28.08.95  
Test oil : ISO 4113  
Combination No. : 0 400 866 169  
Injection pump  
Pump designation : PES6A85D410/3RS2611  
EP type number : 0 410 886 902  
Governor  
Governor design. : RSV325...1250A2C540  
: -3L  
Governor no. : 0 420 232 565

Cust. part No. :

Customer-spec. information  
Customer : KHD  
Motor : F6L913  
Power KW : 89.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 417 413 000  
Inlet press. bar : 1.5  
Test nozzle holder  
assembly : 0 681 343 009  
Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0

C06

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1250  
Rack travel in mm : 10.55  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 63.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 2.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.0  
Rated speed rpm : 325  
Rack travel in mm : 7.00  
Tolerance mm : ± 0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 15.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 5.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
Rack travel in mm : 0.50  
Tolerance mm : +- 0.20  
governor spring  
pre-tension  
click setting x : 5.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 63.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 2.5  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.0

CONTROL LEVER

control lever  
position degree : 102.0  
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 9.50  
Rated speed rpm : 1295  
Tolerance 1/min : +- 5

rack travel mm : 4.00  
Rated speed rpm : 1365  
Tolerance 1/min : +- 15

rack travel mm : 0.85  
Tolerance mm : +- 0.55  
Rated speed rpm : 1525

LOW IDLE

control lever  
position degree : 74.0  
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 325  
rack travel mm : 7.00  
Tolerance mm : +- 0.10

rack travel mm : 2.00  
Rated speed rpm : 440  
Tolerance 1/min : +- 30

Rated speed rpm : 100

CRT mm min. : > 19.50

SET IDLE AUXILIARY SPRING

Rated speed rpm : 100

TORQUE CONTROL

Rated speed rpm : 1250  
rack travel mm : 10.55  
Tolerance mm : +- 0.05

Rated speed rpm : 500  
rack travel mm : 11.15  
Tolerance mm : +- 0.05

Rated speed rpm : 1000  
rack travel mm : 10.80  
Tolerance mm : +- 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 800

Del. quantity  
cm<sup>3</sup>/1000 strokes : 55.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.5  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.5

---

#### BREAKAWAY

Rack travel in mm : 9.50  
Rated speed rpm : 1295  
Tolerance 1/min : ± 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 17.80  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 8.0

---

#### LOW IDLE

Rated speed rpm : 325  
rack travel mm : 7.00  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 15.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.5

---

End of test specification sheet

C08



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 30.05.95  
Test oil : ISO 4113  
Combination No. : 0 400 866 173  
Injection pump  
Pump designation : PES6A85D410/3RS2611  
EP type number : 0 410 886 902  
Governor  
Governor design. : RSV325...1200A0C2148  
: -1L  
Governor no. : 0 420 232 567  
Cust. part No. :

Customer-spec. information  
Customer : KHD  
Motor : F6L913 H  
Power kW : 85.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 419 992 198  
Inlet press. bar : 1.5  
Test nozzle holder  
assembly : 0 681 343 009  
Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1200  
Rack travel in mm : 10.45  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 62.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 2.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.0  
Rated speed rpm : 325  
Rack travel in mm : 8.50  
Tolerance mm : ± 0.20

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 11.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 5.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 2.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 4.5

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : ± 0.20  
 governor spring  
 pre-tension  
 click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 62.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 0.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 2.5  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 5.0

CONTROL LEVER

control lever  
 position degree : 104.0  
 tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 9.40  
 Rated speed rpm : 1245  
 Tolerance 1/min : ± 5

C10

rack travel mm : 4.00  
 Rated speed rpm : 1310  
 Tolerance 1/min : ± 15

rack travel mm : 0.85  
 Tolerance mm : ± 0.55  
 Rated speed rpm : 1460

LOW IDLE

control lever  
 position degree : 76.0  
 tolerance degree : ± 4.0

Testing:

Rated speed rpm : 325  
 rack travel mm : 8.50  
 Tolerance mm : ± 0.10

rack travel mm : 2.00  
 Rated speed rpm : 470  
 Tolerance 1/min : ± 30

SET IDLE AUXILIARY SPRING

Rated speed rpm : 30

TORQUE CONTROL

Rated speed rpm : 1200  
 rack travel mm : 10.45  
 Tolerance mm : ± 0.05

Rated speed rpm : 500  
 rack travel mm : 11.10  
 Tolerance mm : ± 0.10

Rated speed rpm : 800  
 rack travel mm : 11.10  
 Tolerance mm : ± 0.10

Rated speed rpm : 1050  
 rack travel mm : 10.80  
 Tolerance mm : ± 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
 hPa : -  
 Rated speed rpm : 800

Del. quantity  
cm<sup>3</sup>/1000 strokes : 55.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.5

Aneroid pressure  
hPa : -  
Rated speed rpm : 1050  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 60.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.5

---

#### BREAKAWAY

Rack travel in mm : 9.40  
Rated speed rpm : 1245  
Tolerance 1/min : ± 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 17.80  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 8.0

---

#### LOW IDLE

Rated speed rpm : 325  
rack travel mm : 8.50  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.5

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 04.05.95  
Test oil : ISO 4113  
  
Combination No. : 0 400 874 253  
  
Injection pump  
Pump designation : PES4A85D410/3RS2799  
: -2  
EP type number : 0 410 884 941  
  
Governor  
Governor design. : RSV325...1150A8C2239  
: -6L  
Governor no. : 0 420 232 582  
  
Cust. part No. :

Customer-spec. information

Customer : KHD  
Motor : BF4L913  
Power KW : 70.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 1 419 992 198  
  
Inlet press. bar : 1.5  
  
Test nozzle holde  
assembly : 0 681 343 009  
  
Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5  
  
Test lines : 1 680 750 014

Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
  
Firing order : 1- 3- 4- 2  
  
Phasing : 0-90-180-270  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1050  
  
Rack travel in mm : 11.55  
Tolerance mm : ± 0.05  
  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 80.0  
  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 2.5  
  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0  
  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.0  
  
Rated speed rpm : 325  
  
Rack travel in mm : 7.60  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 15.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
Rack travel in mm : 0.50  
Tolerance mm : + 0.20  
governor spring  
pre-tension  
click setting x : 4.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 80.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 2.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.0

CONTROL LEVER

control lever  
position degree : 101.0  
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.50  
Rated speed rpm : 1095  
Tolerance 1/min : + 5  
rack travel mm : 4.00

Rated speed rpm : 1135  
Tolerance 1/min : + 15  
rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1330  
rack travel mm : 4.00  
Rated speed rpm : 1160

LOW IDLE

control lever  
position degree : 70.0  
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
rack travel mm : 7.10

Testing:

Rated speed rpm : 325  
rack travel mm : 7.60  
Tolerance mm : + 0.10

rack travel mm : 2.00  
Rated speed rpm : 465  
Tolerance 1/min : + 30

Rated speed rpm : 100

CRJ mm min. : > 19.50

TORQUE CONTROL

Rated speed rpm : 1050  
rack travel mm : 11.55  
Tolerance mm : + 0.05

Rated speed rpm : 730  
rack travel mm : 12.15  
Tolerance mm : + 0.05

Rated speed rpm : 885  
rack travel mm : 11.80  
Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 730  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 80.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.5

---

#### BREAKAWAY

Rack travel in mm : 10.50  
Rated speed rpm : 1095  
Tolerance 1/min : ± 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 17.80  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 125.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 8.0

---

#### LOW IDLE

Rated speed rpm : 325  
rack travel mm : 7.60  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 15.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.5

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 29.05.95  
Test oil : ISO 4113  
Combination No. : 0 400 876 274  
Injection pump  
Pump designation : PES6A95D410RS2471  
EP type number : 0 410 896 952  
Governor  
Governor design. : RSV325...1150A8C707  
: -6L  
Governor no. : 0 420 232 532

Cust. part No. :

Customer-spec. information

Customer : KHD  
Motor : BF6L913C  
Power KW : 132.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0  
Overflow valve : 1 417 413 000  
Inlet press. bar : 1.5  
Test nozzle holder  
assembly : 0 681 343 009  
Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1150  
Rack travel in mm : 11.85  
Tolerance mm : + 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 109.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0  
Rated speed rpm : 325  
Rack travel in mm : 7.30  
Tolerance mm : + 0.20

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 12.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 5.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 5.5

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : + 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150  
 Aneroid pressure  
 hPa : 700  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 109.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 3.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0

CONTROL LEVER

control lever  
 position degree : 106.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.80  
 Rated speed rpm : 1195  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1250  
 Tolerance 1/min : + 15

rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1400

rack travel mm : 4.00  
 Rated speed rpm : 1300

LOW IDLE

control lever  
 position degree : 71.0  
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
 rack travel mm : 6.80

Testing:

Rated speed rpm : 325  
 rack travel mm : 7.30  
 Tolerance mm : + 0.10

rack travel mm : 2.00  
 Rated speed rpm : 615  
 Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.50

TORQUE CONTROL

Rated speed rpm : 1150  
 rack travel mm : 11.85  
 Tolerance mm : + 0.05

Rated speed rpm : 500  
 rack travel mm : 11.90  
 Tolerance mm : + 0.10

ANEROID/ALTITUDE  
 COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
 Pressure hPa : 700  
 rack travel mm : 11.85  
 Tolerance mm : + 0.05

MEASUREMENT



Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 9.95  
Tolerance mm : ± 0.05

Rated speed rpm : 500

Pressure hPa : 93  
rack travel mm : 10.20  
Tolerance mm : ± 0.10

Pressure hPa : 373  
rack travel mm : 11.55  
Tolerance mm : ± 0.05

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 700  
Rated speed rpm : 850  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 105.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spreed  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 63.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

---

#### BREAKAWAY

Rack travel in mm : 10.80  
Rated speed rpm : 1195  
Tolerance 1/min : ± 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 15.70  
Tolerance mm : ± 0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 125.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 8.0

---

#### LOW IDLE

Rated speed rpm : 325  
rack travel mm : 7.30  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 14.06.95  
Test oil : ISO 4113  
Combination No. : 0 400 876 275  
Injection pump  
Pump designation : PES6A95D410RS2471  
EP type number : 0 410 896 952  
Governor  
Governor design. : RSV325...1150A8C674  
: -3L  
Governor no. : 0 420 232 543  
Cust. part No. :

Customer-spec. information

Customer : KHD  
Motor : BF6L913C  
Power KW : 132.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 417 413 000  
Inlet press. bar : 1.5  
Test nozzle holder  
assembly : 0 681 343 009  
Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1150  
Rack travel in mm : 11.85  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 109.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0  
Rated speed rpm : 325  
Rack travel in mm : 7.30  
Tolerance mm : ± 0.20

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 19.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 5.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 5.0

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : + 0.20  
 governor spring  
 pre-tension  
 click setting x : 4.75

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1150  
 Aneroid pressure  
 hPa : 700  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 109.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 3.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0

CONTROL LEVER

control lever  
 position degree : 106.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.80  
 Rated speed rpm : 1195  
 Tolerance 1/min : + 5

rack travel mm : 4.00  
 Rated speed rpm : 1250  
 Tolerance 1/min : + 15

rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1400

rack travel mm : 4.00  
 Rated speed rpm : 1300

LOW IDLE

control lever  
 position degree : 71.0  
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
 rack travel mm : 7.30

Testing:

Rated speed rpm : 325  
 rack travel mm : 6.80  
 Tolerance mm : + 0.10

rack travel mm : 2.00  
 Rated speed rpm : 615  
 Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.50

TORQUE CONTROL

Rated speed rpm : 1150  
 rack travel mm : 11.85  
 Tolerance mm : + 0.05

Rated speed rpm : 500  
 rack travel mm : 11.90  
 Tolerance mm : + 0.10

ANEROID/ALTITUDE  
 COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
 Pressure hPa : 700

rack travel mm : 11.85  
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 9.90  
Tolerance mm : + 0.10

Rated speed rpm : 500

Pressure hPa : 160  
rack travel mm : 10.55  
Tolerance mm : + 0.15

Pressure hPa : 340  
rack travel mm : 11.35  
Tolerance mm : + 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 700  
Rated speed rpm : 850  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 105.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0  
Spreed  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 63.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

---

BREAKAWAY

Rack travel in mm : 10.80  
Rated speed rpm : 1195  
Tolerance 1/min : + 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 15.70  
Tolerance mm : + 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 125.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 8.0

---

LOW IDLE

Rated speed rpm : 325  
rack travel mm : 7.30  
Tolerance mm : + 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 5.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 17.06.95  
Test oil : ISO 4113  
Combination No. : 0 400 876 330  
Injection pump  
Pump designation : PES6A95D410RS2471  
EP type number : 0 410 896 952  
Governor  
Governor design. : RSV325...1400A2C2205  
: L  
Governor no. : 0 420 232 445

Cust. part No. :

Customer-spec. information  
Customer : KHD  
Motor : PPM BF6L913C  
Power KW : 125.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0  
Overflow valve : 1 417 413 000  
Inlet press. bar : 1.0  
Test nozzle holder  
assembly : 0 681 343 009  
Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1400  
Rack travel in mm : 10.95  
Tolerance mm : + 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 89.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0  
Rated speed rpm : 325  
Rack travel in mm : 7.60  
Tolerance mm : + 0.20

Del. quantity  
 cm3/1000 strokes : 13.0  
 Tolerance  
 cm3/1000 strokes : +- 3.0  
 Check tolerance  
 cm3/1000S. : +- 5.5  
 Spreed  
 Tolerance  
 cm3/1000 strokes : 3.5  
 Check tolerance  
 cm3/1000S. : 5.5

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : +- 0.20  
 governor spring  
 pre-tension  
 click setting x : 4.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400  
 Aneroid pressure  
 hPa : 700  
 Del. quantity  
 cm3/1000 strokes : 89.0  
 Tolerance  
 cm3/1000 strokes : +- 1.0  
 Check tolerance  
 cm3/1000S. : +- 3.0  
 Spreed  
 Tolerance  
 cm3/1000 strokes : 3.5  
 Check tolerance  
 cm3/1000S. : 6.0

CONTROL LEVER

control lever  
 position degree : 108.0  
 tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 9.90  
 Rated speed rpm : 1445  
 Tolerance 1/min : +- 5

rack travel mm : 4.00  
 Rated speed rpm : 1505  
 Tolerance 1/min : +- 15

rack travel mm : 0.85  
 Tolerance mm : +- 0.55  
 Rated speed rpm : 1675

rack travel mm : 4.00  
 Rated speed rpm : 1560

LOW IDLE

control lever  
 position degree : 72.0  
 tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
 rack travel mm : 7.60

Testing:

Rated speed rpm : 325  
 rack travel mm : 7.10  
 Tolerance mm : +- 0.10

rack travel mm : 2.00  
 Rated speed rpm : 655  
 Tolerance 1/min : +- 30

Rated speed rpm : 100

CRT mm min. : > 19.50

TORQUE CONTROL

Rated speed rpm : 1400  
 rack travel mm : 10.95  
 Tolerance mm : +- 0.05

Rated speed rpm : 500  
 rack travel mm : 11.00  
 Tolerance mm : +- 0.10

ANEROID/ALTITUDE  
 COMPENSATOR TEST

SETTING

Rated speed rpm : 650  
 Pressure hPa : 700

rack travel mm : 11.00  
Tolerance mm : +- 0.10

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 650  
rack travel mm : 10.25  
Tolerance mm : +- 0.05

Rated speed rpm : 650

Pressure hPa : 180  
rack travel mm : 10.55  
Tolerance mm : +- 0.05

Pressure hPa : 220  
rack travel mm : 10.75  
Tolerance mm : +- 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 700  
Rated speed rpm : 850  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 81.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 650  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 65.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 3.0

---

BREAKAWAY

Rack travel in mm : 9.90  
Rated speed rpm : 1445  
Tolerance 1/min : +- 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 15.80  
Tolerance mm : +- 0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 8.0

---

LOW IDLE

Rated speed rpm : 325  
rack travel mm : 7.60  
Tolerance mm : +- 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 5.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 17.06.95  
Test oil : ISO 4113  
Combination No. : 0 400 876 387  
Injection pump  
Pump designation : PES6A95D410RS2625  
EP type number : 0 410 896 926  
Governor  
Governor design. : RSV375...1200A5C2253  
: -4L  
Governor no. : 0 420 232 560

Cust. part No. :

Customer-spec. information

Customer : KHD  
Motor : BF6L913C  
Power kW : 125.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0  
Overflow valve : 1 417 413 000  
Inlet press. bar : 1.5  
Test nozzle holder  
assembly : 0 681 343 009  
Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1200  
Rack travel in mm : 11.15  
Tolerance mm : + 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 86.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 2.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0  
Rated speed rpm : 375  
Rack travel in mm : 6.00  
Tolerance mm : + 0.20



Del. quantity  
 cm<sup>3</sup>/1000 strokes : 14.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : +- 5.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 5.0

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : +- 0.20  
 governor spring  
 pre-tension  
 click setting x : 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200  
 Aneroid pressure  
 hPa : 800  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 86.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 0.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : +- 2.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0

CONTROL LEVER

control lever  
 position degree : 98.0  
 tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 10.10  
 Rated speed rpm : 1245  
 Tolerance 1/min : +- 5

rack travel mm : 4.00  
 Rated speed rpm : 1275  
 Tolerance 1/min : +- 15

rack travel mm : 0.85  
 Tolerance mm : +- 0.55  
 Rated speed rpm : 1440

rack travel mm : 4.00  
 Rated speed rpm : 1295

LOW IDLE

control lever  
 position degree : 65.0  
 tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 375  
 rack travel mm : 6.00

Testing:

Rated speed rpm : 375  
 rack travel mm : 5.55  
 Tolerance mm : +- 0.15

rack travel mm : 2.00  
 Rated speed rpm : 465  
 Tolerance 1/min : +- 30

Rated speed rpm : 100

CRT mm min. : > 19.50

TORQUE CONTROL

Dimension a mm : 1.10  
 Rated speed rpm : 1200  
 rack travel mm : 11.15  
 Tolerance mm : +- 0.05

Rated speed rpm : 500  
 rack travel mm : 12.05  
 Tolerance mm : +- 0.05

Rated speed rpm : 1030  
 rack travel mm : 10.50  
 Tolerance mm : +- 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 800  
rack travel mm : 12.05  
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.55  
Tolerance mm : +- 0.05

Rated speed rpm : 500

Pressure hPa : 280  
rack travel mm : 11.25  
Tolerance mm : +- 0.15

Pressure hPa : 350  
rack travel mm : 11.75  
Tolerance mm : +- 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 800  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 90.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 3.5

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 56.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 3.0

---

BREAKAWAY

Rack travel in mm : 10.10

Rated speed rpm : 1245  
Tolerance 1/min : +- 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 16.50  
Tolerance mm : +- 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 125.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 8.0

---

LOW IDLE

Rated speed rpm : 375  
rack travel mm : 6.00  
Tolerance mm : +- 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 14.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 5.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 22.05.95  
Test oil : ISO 4113  
Combination No. : 0 402 736 887  
Injection pump  
Pump designation : PES6P120A120RS7369  
EP type number : 0 412 726 935  
Governor  
Governor design. : RQV400...1400PA1211K  
Governor no. : 0 421 815 464

Cust. part No. : 3929689

Customer-spec. information  
Customer : CDC  
Motor : 6BTA-A  
Power KW : 160.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2  
Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0  
Overflow valve : 2 417 413 086  
Inlet press. bar : 2.0  
Tolerance bar : + 0.1  
Test nozzle holder  
assembly : 1 688 901 103  
Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5  
Test lines : 1 680 750 015  
Outside diameter : 6.0

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : + 1.0  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1300  
Rack travel in mm : 14.45  
Tolerance mm : + 0.05  
Del. quantity  
cm3/1000 strokes : 180.0  
Tolerance  
cm3/1000 strokes : + 1.0  
Check tolerance  
cm3/1000s. : + 4.0  
Speed  
Tolerance  
cm3/1000 strokes : 8.0  
Check tolerance  
cm3/1000s. : 12.0  
Del. quantity  
cm3/1000 strokes : 16.5  
Tolerance  
cm3/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300  
Aneroid pressure  
hPa : 1500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 180.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

CONTROL LEVER

control lever  
position degree : 117.5  
tolerance degree : +- 6.0

RATED SPEED

rack travel mm : 13.40  
Rated speed rpm : 1450  
Tolerance 1/min : +- 25

rack travel mm : 5.50  
Rated speed rpm : 1650

rack travel mm : 0.50  
Tolerance mm : +- 0.50  
Rated speed rpm : 1850

---

LOW IDLE

control lever  
position degree : 74.5  
tolerance degree : +- 6.0

Testing:

Rated speed rpm : 420  
rack travel mm : 6.40  
Tolerance mm : +- 0.20

Rated speed rpm : 300

CRT mm min. : > 9.10

Rated speed rpm : 425

---

TORQUE CONTROL

Rated speed rpm : 1300  
rack travel mm : 14.45  
Tolerance mm : +- 0.05

Rated speed rpm : 800  
rack travel mm : 12.00  
Tolerance mm : +- 0.20

Rated speed rpm : 1100  
rack travel mm : 13.50  
Tolerance mm : +- 0.20

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 1300  
Pressure hPa : 1500

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1300  
rack travel mm : 9.50  
Tolerance mm : +- 0.20

Rated speed rpm : 1300

Pressure hPa : 965  
rack travel mm : 13.20  
Tolerance mm : +- 0.30

Pressure hPa : 390  
rack travel mm : 10.80  
Tolerance mm : +- 0.20

---

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 340

Check speed 1/min : > 80  
Check speed 1/min : < 350

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 122.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 1300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 79.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 13.40  
Rated speed rpm : 1450  
Tolerance 1/min : ± 25

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 12.80  
Tolerance mm : ± 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 157.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 25.0

---

LOW IDLE

D01

Del. quantity  
cm<sup>3</sup>/1000 strokes : 16.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.05.95  
Test oil : ISO 4113  
Combination No. : 9 400 030 696  
Injection pump  
Pump designation : PES6A95D320/3RS2881  
EP type number : 9 410 037 215  
Governor  
Governor design. : RSV475...1250A0C826R  
Governor no. : 9 420 034 700

Cust. part No. :

Customer-spec. information  
Customer : CUMMINS  
Motor : 6BT - 165 PS

TEST BENCH REQUIREMENTS

Inlet line : 1.1

Test oil inlet temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Test nozzle holder assembly : 1 688 901 101

Opening pressure bar : 207.0  
Tolerance bar : ± 3.0

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 2.85  
Tolerance mm : ± 0.05  
Check tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 12.60  
Tolerance mm : ± 0.05

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.80  
Tolerance mm : ± 0.20

governor spring  
pre-tension  
click setting x : 2.50

---

CONTROL LEVER

control lever  
position degree : 50.0  
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 11.60  
Rated speed rpm : 1316  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1410  
Tolerance 1/min : ± 15

rack travel mm : 1.20  
Tolerance mm : ± 0.50  
Rated speed rpm : 1470

---

LOW IDLE

control lever  
position degree : 25.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 475  
rack travel mm : 5.70  
Tolerance mm : ± 0.10

rack travel mm : 2.00  
Rated speed rpm : 555  
Tolerance 1/min : ± 30

Rated speed rpm : 100

CRT mm min. : > 19.50

---

TORQUE CONTROL

Rated speed rpm : 1250  
rack travel mm : 12.60  
Tolerance mm : ± 0.05

Rated speed rpm : 500  
rack travel mm : 12.70  
Tolerance mm : ± 0.10

Rated speed rpm : 800  
rack travel mm : 12.70  
Tolerance mm : ± 0.05

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 800  
Pressure hPa : 800  
rack travel mm : 12.70  
Tolerance mm : ± 0.05

MEASUREMENT

Rated speed rpm : 800

Pressure hPa : -  
rack travel mm : 10.40  
Tolerance mm : ± 0.05

Pressure hPa : 500  
rack travel mm : 11.30  
Tolerance mm : ± 0.10

---

BREAKAWAY

Rack travel in mm : 11.60  
Rated speed rpm : 1316  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.25  
Tolerance mm : ± 0.75

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.10.95  
 Test oil : ISO 4113  
 Combination No. : 0 403 244 049  
 Injection pump  
 Pump designation : PES4MW100/32ORS1521  
 EP type number : 0 413 204 020  
 Governor  
 Governor design. : RQ400/1200MW149  
 Governor no. : 0 420 082 075  
 Cust. part No. : 51.11103-7468

Customer-spec. information  
 Customer : MAN  
 Motor : D0824 LFL04  
 Power KW : 81.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
 Test oil inlet  
 temp. °C : 40  
 Tolerance °C : +- 2.0  
 Overflow valve : 1 419 992 198  
 Inlet press. bar : 1.5  
 Test nozzle holde  
 assembly : 1 688 901 101  
 Opening pressure  
 bar : 208.5  
 Tolerance bar : +- 1.5  
 Test lines : 1 680 750 008  
 Outside diameter : 8.0

D04

x inside diameter : 2.0  
 x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
 Set equal delivery quant.  
 per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
 Tolerance bar : +- 1.0  
 Prestroke mm : 5.05  
 Tolerance mm : +- 0.05  
 Check  
 tolerance mm : +- 0.10  
 Rack travel in mm : 10.50  
 Tolerance mm : +- 1.50  
 Firing order : 1- 3- 4- 2  
 Phasing : 0-90-180-270  
 Tolerance : +- 0.50  
 Check  
 tolerance °NW : +- 0.75  
 Start of delivery mark  
 Barrel no. : 1

BASIC SETTING

Rated speed rpm : 900  
 Rack travel in mm : 12.30  
 Tolerance mm : +- 0.05  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 135.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : +- 4.0  
 Spread



Tolerance  
 cm<sup>3</sup>/1000 strokes : 4.0  


---

 Check tolerance  
 cm<sup>3</sup>/1000S. : 7.5  
 Rated speed rpm : 400  
 Rack travel in mm : 4.80  
 Tolerance mm : + 0.20  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 23.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 5.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 400  
 guide sleeve  
 travel mm : 2.75  
 Tolerance mm : + 0.20  
 Rated speed rpm : 1257  
 guide sleeve  
 travel mm : 7.47  
 Tolerance mm : + 0.15  
 Rated speed rpm : 1200  
 guide sleeve  
 travel mm : 7.00  
 Tolerance mm : + 0.10  
 Rated speed rpm : 492  
 guide sleeve  
 travel mm : 4.36  
 Tolerance mm : + 0.10  
 Rated speed rpm : 650  
 guide sleeve  
 travel mm : 7.00  
 Tolerance mm : + 0.10  
 Rated speed rpm : 1420  
 guide sleeve  
 travel mm : 11.50  
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 600  
 Rack travel in mm : 16.50  
 Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 900  
 Aneroid pressure  
 hPa : 800  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 135.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 7.5

CONTROL LEVER

control lever  
 position degree : 98.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 11.30  
 Rated speed rpm : 1253  
 Tolerance 1/min : + 8  
 rack travel mm : 4.00  
 Rated speed rpm : 1335  
 Tolerance 1/min : + 15  
 rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1450

LOW IDLE

control lever  
 position degree : 73.0  
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 400  
rack travel mm : 4.80  
Tolerance mm : ± 0.10

Rated speed rpm : 300  
CRT mm min. : > 6.50

---

TORQUE CONTROL

Rated speed rpm : 900  
rack travel mm : 12.30  
Tolerance mm : ± 0.05

Rated speed rpm : 1200  
rack travel mm : 12.30  
Tolerance mm : ± 0.10

Rated speed rpm : 650  
rack travel mm : 12.30  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 800  
rack travel mm : 12.30  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
Tolerance mm : ± 0.10

Rated speed rpm : 500

Pressure hPa : 400  
rack travel mm : 1.60  
Tolerance mm : ± 0.10

Pressure hPa : 130  
rack travel mm : 0.30  
Tolerance mm : ± 0.10

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 800  
Rated speed rpm : 1200

Del. quantity  
cm<sup>3</sup>/1000 strokes : 129.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Aneroid pressure  
hPa : 800  
Rated speed rpm : 650  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 140.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 93.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

---

BREAKAWAY

Rack travel in mm : 11.30  
Rated speed rpm : 1253  
Tolerance 1/min : ± 8

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 110.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 8.0

---

LOW IDLE

Rated speed rpm : 400  
rack travel mm : 4.80  
Tolerance mm : ± 0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 23.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000s. : 5.5

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 01.12.95  
Test oil : ISO 4113  
  
Combination No. : 0 402 848 300  
  
Injection pump  
Pump designation : PE8P120A520LS8518  
EP type number : 0 412 828 201  
  
Governor  
Governor design. : RQV300...1150PA1039  
: -3K  
Governor no. : 0 421 815 980  
  
Cust. part No. : 51.11103-7492

Customer-spec. information  
Customer : MAN  
Motor : D 2848 LE 403  
Power KW : 588.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0  
  
Overflow valve : 1 417 413 078  
  
Inlet press. bar : 2.5  
Tolerance bar : + 0.1  
  
Overflow quantity  
min. l/h : 170  
Tolerance l/h : + 15.0  
  
Test nozzle holde  
assembly : 1 688 901 105  
  
Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

D08

Test lines : 1 680 750 089  
Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0  
  
Prestroke mm : 5.65  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10  
  
Rack travel in mm : 13.00  
Tolerance mm : + 0.50  
  
Firing order : 8- 7- 2- 6- 3  
: - 5- 4- 1  
  
Phasing : 0-45-90-135-180  
: -225-270-315  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

Start of delivery blocking

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 1150  
  
Rack travel in mm : 13.70  
Tolerance mm : + 0.05  
  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 337.0

<hr/>	
Tolerance	
cm3/1000 strokes	: +- 1.0
<hr/>	
Check tolerance	
cm3/1000S.	: +- 4.0
<hr/>	
Spreed	
Tolerance	
cm3/1000 strokes	: 8.0
<hr/>	
Check tolerance	
cm3/1000S.	: 12.0
<hr/>	
Rated speed rpm	: 300
<hr/>	
Rack travel in mm	: 5.00
Tolerance mm	: +- 0.20
Del. quantity	
cm3/1000 strokes	: 49.0
Tolerance	
cm3/1000 strokes	: +- 3.0
Check tolerance	
cm3/1000S.	: +- 8.0
Spreed	
Tolerance	
cm3/1000 strokes	: 8.0
Check tolerance	
cm3/1000S.	: 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 300
guide sleeve	
travel mm	: 1.61
Tolerance mm	: +- 0.20
<hr/>	
Rated speed rpm	: 1206
guide sleeve	
travel mm	: 9.84
Tolerance mm	: +- 0.15
<hr/>	
Rated speed rpm	: 797
guide sleeve	
travel mm	: 6.36
Tolerance mm	: +- 0.25
<hr/>	
Rated speed rpm	: 460
guide sleeve	
travel mm	: 3.78
Tolerance mm	: +- 0.25
<hr/>	
Rated speed rpm	: 1500
guide sleeve	
travel mm	: 13.50

Tolerance mm : +- 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	: 1327
<hr/>	
Rack travel in mm	: 12.70
Tolerance mm	: +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1150
Aneroid pressure	
hPa	: 2000
Del. quantity	
cm3/1000 strokes	: 337.0
Tolerance	
cm3/1000 strokes	: +- 1.0
Check tolerance	
cm3/1000S.	: +- 4.0
Spreed	
Tolerance	
cm3/1000 strokes	: 8.0
Check tolerance	
cm3/1000S.	: 12.0

CONTROL LEVER

control lever	
position degree	: 118.0
tolerance degree	: +- 4.0

RATED SPEED

rack travel mm	: 12.70
Rated speed rpm	: 1195
Tolerance 1/min	: +- 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1325
Tolerance 1/min	: +- 15
<hr/>	
rack travel mm	: 0.50
Tolerance mm	: +- 0.50
Rated speed rpm	: 1400

LOW IDLE

control lever	
position degree	: 71.0
tolerance degree	: +- 4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 5.00  
Tolerance mm : ± 0.10

Rated speed rpm : 200

CRT mm min. : > 6.90

Rated speed rpm : 340

---

#### TORQUE CONTROL

Rated speed rpm : 1150  
rack travel mm : 13.70  
Tolerance mm : ± 0.05

Rated speed rpm : 1000  
rack travel mm : 13.65  
Tolerance mm : ± 0.10

Rated speed rpm : 850  
rack travel mm : 12.60  
Tolerance mm : ± 0.10

Rated speed rpm : 650  
rack travel mm : 11.40  
Tolerance mm : ± 0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 1150  
Pressure hPa : 2000  
rack travel mm : 13.70  
Tolerance mm : ± 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1150  
rack travel mm : 7.70  
Tolerance mm : ± 0.15

Rated speed rpm : 1150

Pressure hPa : 220  
rack travel mm : 8.05  
Tolerance mm : ± 0.05

Pressure hPa : 1050  
rack travel mm : 11.90  
Tolerance mm : ± 0.15

---

#### START CUT-OUT

Rated speed rpm : > 170  
Rated speed rpm : < 230

Check  
speed 1/min : > 150  
Check  
speed 1/min : < 240

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 2000  
Rated speed rpm : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 344.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 8.0

Aneroid pressure  
hPa : 2000  
Rated speed rpm : 850  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 321.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 8.0

Aneroid pressure  
hPa : 2000  
Rated speed rpm : 650  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 299.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 8.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 185.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

#### BREAKAWAY

Rack travel in mm : 12.70

Rated speed rpm : 1195  
Tolerance 1/min : +- 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : +- 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 130.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 19.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 5.00  
Tolerance mm : +- 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 49.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 8.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 11.12.95  
Test oil : ISO 4113

Combination No. : 0 400 076 960

Injection pump  
Pump designation : PES6M55C320RS179  
EP type number : 0 410 056 985

Governor  
Governor design. : RSF315/2000M65-6  
Governor no. : 0 420 021 161

Cust. part No. :

Customer-spec. information  
Customer : MB-PKW  
Motor : OM603A D35 GW  
Power KW : 100.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holde  
assembly : 1 688 901 111

Opening pressure  
bar : 148.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 1.75  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 21.00  
Tolerance mm : + 1.00

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

Start of delivery blocking

°NW after s.o.d. : 17.00  
Tolerance : + 0.20  
Check  
tolerance °NW : + 0.30

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000

Rack travel in mm : 13.65  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 58.5

Tolerance  
cm<sup>3</sup>/1000 strokes : + 0.5



Check tolerance  
 cm<sup>3</sup>/1000S. : + 1.5

---

Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 2.5

---

Check tolerance  
 cm<sup>3</sup>/1000S. : 3.0

Rated speed rpm : 290

Rack travel in mm : 6.30  
 Tolerance mm : + 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 10.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 0.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

IDLE STAGE

Rack travel in mm : 5.50  
 Tolerance mm : + 0.25

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
 Ref. pressure  
 ALDA / ADA hPa : 1900  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 58.5  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 0.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 1.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 2.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 3.0

---

RATED SPEED

control lever  
 position degree : 50.0

rack travel mm : 6.50  
 Rated speed rpm : 2350

rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 2700

---

SET IDLE CONTROL LEVER POSITION

Rated speed rpm : 1000

CRT mm max. : 1.95

---

LOW IDLE

control lever  
 position degree : 10.0  
 tolerance degree : + 2.0

Setting point w/out bumper spring  
 Rated speed rpm : 290  
 rack travel mm : 6.30

SET IDLE AUXILIARY SPRING

Rated speed rpm : 400  
 rack travel mm : 4.80  
 Tolerance mm : + 0.10

Load pick-up

Rated speed rpm : 200

CRT mm min. : > 7.50

Rated speed rpm : 1000

CRT mm max. : 1.95

rack travel mm : 6.30  
 Rated speed rpm : 290

---

TORQUE CONTROL

Rated speed rpm : 1000  
 rack travel mm : 13.65  
 Tolerance mm : + 0.05

Rated speed rpm : 1600  
 rack travel mm : 12.85  
 Tolerance mm : + 0.10

Rated speed rpm : 2000  
 rack travel mm : 11.70  
 Tolerance mm : + 0.10

---

ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 1000  
Ref. pressure  
ALDA / ADA hPa : 1600  
rack travel mm : -0.40  
Tolerance mm : +- 0.20

MEASUREMENT

Rated speed rpm : 1000  
Ref. pressure  
ALDA / ADA hPa : 1100  
rack travel mm : -2.95  
Tolerance mm : +- 0.10

Rated speed rpm : 1000  
Ref. pressure  
ALDA / ADA hPa : 750  
rack travel mm : -4.80  
Tolerance mm : +- 0.20

---

FUEL DELIVERY CHARACTERISTICS

Ref. pressure  
ALDA / ADA hPa : 1900  
Rated speed rpm : 1600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 55.8  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 0.8  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 1.8  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

Ref. pressure  
ALDA / ADA hPa : 1900  
Rated speed rpm : 2000  
Spreed  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 51.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 2.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

Ref. pressure  
ALDA / ADA hPa : 1100  
Rated speed rpm : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 41.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 1.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

---

HIGH IDLE

Ref. pressure  
ALDA / ADA hPa : 1900

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 52.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.8  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 2.3  
Spreed  
Check tolerance  
cm<sup>3</sup>/1000S. : 1.5

---

Grad : > 37.00

Grad : < 35.50

---

SETTING PNEUMATIC FAST IDLE (ELA)

control lever  
position degree : 10.0  
tolerance degree : ± 2.0

---

SETTING/TESTING ELECTRONIC IDLE  
REGULATION (ELR)

control lever  
position degree : 10.0  
tolerance degree : ± 2.0  
Rated speed rpm : 315

Rack travel in mm : 12.50  
Tolerance mm : ± 0.70  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 48.0  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 48.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 4.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 4.0

Current A : 1.80

control lever  
position degree : 50.0  
Rated speed rpm : 2700

Rack travel in mm : 0.50  
Tolerance mm : ± 0.50

Current short-  
duration A : 3.00

Starting test

Rated speed rpm : 100

Current A : 1.80

---

ADJUSTMENT

control lever  
position degree : 50.0

---

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 290

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 11.12.95  
Test oil : ISO 4113  
  
Combination No. : 0 400 076 961  
  
Injection pump  
Pump designation : PES6M55C320RS157-1  
EP type number : 0 410 056 991  
  
Governor  
Governor design. : RSF315/2300M65-5  
Governor no. : 0 420 021 145  
  
Cust. part No. :

---

Customer-spec. information  
Customer : MB-PKW  
Motor : OM603A-ECE  
Power KW : 110.0

---

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 1 469 990 351  
  
Inlet press. bar : 1.0  
  
Test nozzle holde  
assembly : 1 688 901 111  
  
Opening pressure  
bar : 148.5  
Tolerance bar : ± 1.5  
  
Test lines : 1 680 750 014  
  
Outside diameter : 6.0  
  
x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 2.25  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
  
Rack travel in mm : 21.00  
Tolerance mm : ± 1.00  
  
Firing order : 1- 5- 3- 6- 2-  
: 4  
  
Phasing : 0-60-120-180-240  
: -300  
  
Start of delivery blocking  
  
°NW after s.o.d. : 19.50  
Tolerance : ± 0.20  
Check  
tolerance °NW : ± 0.30  
  
Barrel no. : 1

---

BASIC SETTING

Rated speed rpm : 1000  
  
Rack travel in mm : 13.95  
Tolerance mm : ± 0.05  
  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 53.0  
  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5

Check tolerance  
 cm<sup>3</sup>/1000S. : + 1.5  


---

 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 2.5  


---

 Check tolerance  
 cm<sup>3</sup>/1000S. : 3.0  
 Rated speed rpm : 290  
 Rack travel in mm : 5.40  
 Tolerance mm : + 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 7.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 0.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

IDLE STAGE

Rack travel in mm : 6.50  
 Tolerance mm : + 0.10

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
 Ref. pressure  
 ALDA / ADA hPa : 1850  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 53.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 0.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 1.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 2.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 3.0

RATED SPEED

control lever  
 position degree : 50.0  
 rack travel mm : 8.30  
 Rated speed rpm : 2500

rack travel mm : -0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 2950

SET IDLE CONTROL LEVER POSITION

Rated speed rpm : 1000  
 CRT mm max. : 1.75

LOW IDLE

control lever  
 position degree : 10.0  
 tolerance degree : + 2.0

Setting point w/out bumper spring

Rated speed rpm : 290  
 rack travel mm : 5.40

SET IDLE AUXILIARY SPRING

Rated speed rpm : 360  
 rack travel mm : 4.30  
 Tolerance mm : + 0.10

rack travel mm : 2.50  
 Rated speed rpm : 560  
 Tolerance 1/min : + 50

Load pick-up

Rated speed rpm : 200  
 CRT mm min. : > 7.00

Rated speed rpm : 1000  
 CRT mm max. : 1.75

rack travel mm : 5.40  
 Rated speed rpm : 290

TORQUE CONTROL

Rated speed rpm : 1000  
 rack travel mm : 13.95  
 Tolerance mm : + 0.05

Rated speed rpm : 1600  
 rack travel mm : 13.20  
 Tolerance mm : + 0.10

Rated speed rpm : 2200

rack travel mm : 12.40  
Tolerance mm : ± 0.10

---

ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 1000  
Ref. pressure  
ALDA / ADA hPa : 1600

MEASUREMENT

Rated speed rpm : 1000  
Ref. pressure  
ALDA / ADA hPa : 1100  
  
Rated speed rpm : 1000  
Ref. pressure  
ALDA / ADA hPa : 750

---

FUEL DELIVERY CHARACTERISTICS

Ref. pressure  
ALDA / ADA hPa : 1850  
Rated speed rpm : 1600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 51.8  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.8  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 1.8  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

Ref. pressure  
ALDA / ADA hPa : 1850  
Rated speed rpm : 2200  
Spreed  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 49.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 2.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

Ref. pressure  
ALDA / ADA hPa : 1100  
Rated speed rpm : 1000

Del. quantity  
cm<sup>3</sup>/1000 strokes : 36.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 1.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

---

HIGH IDLE

Ref. pressure  
ALDA / ADA hPa : 1850

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 52.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 8.6  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 2.3  
Spreed  
Check tolerance  
cm<sup>3</sup>/1000S. : 1.5

---

Grad : > 35.50

Grad : < 33.00

---

SETTING PNEUMATIC FAST IDLE (ELA)

control lever  
position degree : 10.0  
tolerance degree : ± 2.0

---

SETTING/TESTING ELECTRONIC IDLE  
REGULATION (ELR)

control lever  
position degree : 10.0  
tolerance degree :  $\pm$  2.0  
Rated speed rpm : 315  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  4.0  
Current A : 1.80

control lever  
position degree : 50.0  
Rated speed rpm : 2950

Rack travel in mm : 0.50  
Tolerance mm :  $\pm$  0.50

Current short-  
duration A : 3.00

Starting test

Rated speed rpm : 100  
Current A : 1.80

---

ADJUSTMENT

control lever  
position degree : 50.0

---

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 290

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 07.12.95  
Test oil : ISO 4113  
  
Combination No. : 0 400 836 021  
  
Injection pump  
Pump designation : PES6A80D410/3RS2527  
EP type number : 0 410 886 059  
  
Governor  
Governor design. : RQV300...1400AB951DL  
Governor no. : 0 420 214 215  
  
Cust. part No. :

Customer-spec. information  
Customer : KHD  
Motor : F6L912

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 1 419 992 198  
  
Inlet press. bar : 1.5  
  
Test nozzle holder  
assembly : 0 681 343 009  
  
Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5  
  
Test lines : 1 680 750 014  
  
Outside diameter : 6.0  
x inside diameter : 2.0

D20

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 1.95  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
  
Firing order : 1- 5- 3- 6- 2-  
: 4  
  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1400  
  
Rack travel in mm : 12.05  
Tolerance mm : ± 0.05  
  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 69.5  
  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 2.0  
  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5



Check tolerance  
 cm<sup>3</sup>/1000S. : 4.0  
 Rated speed rpm : 300  
 Rack travel in mm : 6.00  
 Tolerance mm : + 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 12.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 3.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.20  
 Tolerance mm : + 0.15

Rated speed rpm : 1454  
 guide sleeve  
 travel mm : 8.60  
 Tolerance mm : + 0.15

Rated speed rpm : 970  
 guide sleeve  
 travel mm : 5.00  
 Tolerance mm : + 0.25

Rated speed rpm : 1720  
 guide sleeve  
 travel mm : 11.50  
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1440  
 Rack travel in mm : 16.50  
 Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400  
 Aneroid pressure  
 hPa : -

D21

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 69.5  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 0.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 2.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 2.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 4.0

CONTROL LEVER

control lever  
 position degree : 103.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 11.00  
 Rated speed rpm : 1445  
 Tolerance 1/min : + 5

rack travel mm : 4.00  
 Rated speed rpm : 1550  
 Tolerance 1/min : + 15

rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1700

LOW IDLE

control lever  
 position degree : 50.0  
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 6.00  
 Tolerance mm : + 0.10

Rated speed rpm : 100  
 CRT mm min. : > 7.50  
 Rated speed rpm : 495

TORQUE CONTROL

Dimension a mm : 0.80  
 Rated speed rpm : 1400

rack travel mm : 12.05  
Tolerance mm : + 0.05  
  
Rated speed rpm : 700  
rack travel mm : 12.85  
Tolerance mm : + 0.10  
  
Rated speed rpm : 1045  
rack travel mm : 12.70  
Tolerance mm : + 0.10  
  
Rated speed rpm : 1150  
rack travel mm : 12.40  
Tolerance mm : + 0.10

---

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 220  
  
Check  
speed 1/min : > 80  
Check  
speed 1/min : < 240

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 65.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

---

BREAKAWAY

Rack travel in mm : 11.00  
Rated speed rpm : 1445  
Tolerance 1/min : + 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 17.45  
Tolerance mm : + 0.15

---

LOW IDLE

D22

Rated speed rpm : 300  
rack travel mm : 6.00  
Tolerance mm : + 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 04.12.95  
Test oil : ISO 4113

Combination No. : 0 402 036 761

Injection pump  
Pump designation : PES6P110A12ORS3353  
EP type number :

Governor  
Governor design. : RQV450...1100PA1233K  
Governor no. : 0 421 815 474

Cust. part No. : 3926886

---

Customer-spec. information  
Customer : CDC  
Motor : 6CTA  
Power KW : 187.0

---

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 086

Inlet press. bar : 2.0  
Tolerance bar : ± 0.1

Test nozzle holde  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 015

Outside diameter : 6.0

D23

x inside diameter : 3.0  
x length mm : 600

---

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.60  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

Start of delivery blocking

°NW after s.o.d. : 8.50  
Tolerance : ± 0.10  
Check  
tolerance °NW : ± 0.23

Barrel no. : 1

Beginning of delivery differende  
and maximum rack  
travel : 13.00  
Difference ° CS : 1.20

---

BASIC SETTING

Rated speed rpm : 1000

<hr/>	
Rack travel in mm :	13.15
Tolerance mm :	+ 0.05
<hr/>	
Del. quantity	
cm3/1000 strokes :	200.0
<hr/>	
Tolerance	
cm3/1000 strokes :	+ 1.0
<hr/>	
Check tolerance	
cm3/1000S. :	+ 4.0
<hr/>	
Speed	
Tolerance	
cm3/1000 strokes :	8.0
<hr/>	
Check tolerance	
cm3/1000S. :	12.0
<hr/>	
Del. quantity	
cm3/1000 strokes :	21.5
Tolerance	
cm3/1000 strokes :	+ 3.0
Check tolerance	
cm3/1000S. :	+ 5.0
Speed	
Tolerance	
cm3/1000 strokes :	4.0
Check tolerance	
cm3/1000S. :	8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE TRAVEL

Rated speed rpm :	500
guide sleeve	
travel mm :	1.87
Tolerance mm :	+ 0.20
<hr/>	
Rated speed rpm :	1163
guide sleeve	
travel mm :	7.50
Tolerance mm :	+ 0.15
<hr/>	
Rated speed rpm :	860
guide sleeve	
travel mm :	4.55
Tolerance mm :	+ 0.25
<hr/>	
Rated speed rpm :	1560
guide sleeve	
travel mm :	13.50
Tolerance mm :	+ 0.50

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	1000
Aneroid pressure	
hPa :	1200
Del. quantity	
cm3/1000 strokes :	200.0
Tolerance	
cm3/1000 strokes :	+ 1.0
Check tolerance	
cm3/1000S. :	+ 4.0
Speed	
Tolerance	
cm3/1000 strokes :	8.0
Check tolerance	
cm3/1000S. :	12.0

---

CONTROL LEVER

control lever	
position degree :	110.0
tolerance degree :	+ 4.0

RATED SPEED

rack travel mm :	11.30
Rated speed rpm :	1155
Tolerance 1/min :	+ 15
<hr/>	
rack travel mm :	4.00
Rated speed rpm :	1265
Tolerance 1/min :	+ 15
<hr/>	
rack travel mm :	0.50
Tolerance mm :	+ 0.50
Rated speed rpm :	1325

---

LOW IDLE

control lever	
position degree :	76.0
tolerance degree :	+ 4.0

Testing:

Rated speed rpm :	500
rack travel mm :	5.80
Tolerance mm :	+ 0.20
<hr/>	
Rated speed rpm :	500
CRT mm min. :	> 7.40

Rated speed rpm : 500

---

TORQUE CONTROL

Rated speed rpm : 1000  
rack travel mm : 13.15  
Tolerance mm : ± 0.05

Rated speed rpm : 750  
rack travel mm : 12.80  
Tolerance mm : ± 0.20

Rated speed rpm : 1100  
rack travel mm : 12.45  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 1000  
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1000  
rack travel mm : 10.35  
Tolerance mm : ± 0.20

Rated speed rpm : 1000

Pressure hPa : 890  
rack travel mm : 12.60  
Tolerance mm : ± 0.30

Pressure hPa : 720  
rack travel mm : 11.15  
Tolerance mm : ± 0.20

---

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 380

Check speed 1/min : > 80  
Check speed 1/min : < 390

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1200

Rated speed rpm : 750  
Del. quantity cm<sup>3</sup>/1000 strokes : 189.5  
Tolerance

cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance cm<sup>3</sup>/1000S. : ± 6.0

Speed Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure hPa : 1200  
Rated speed rpm : 1100  
Del. quantity cm<sup>3</sup>/1000 strokes : 178.5  
Tolerance cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance cm<sup>3</sup>/1000S. : ± 6.0

Aneroid pressure hPa : -  
Rated speed rpm : 1000  
Del. quantity cm<sup>3</sup>/1000 strokes : 121.0  
Tolerance cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 11.30  
Rated speed rpm : 1155  
Tolerance 1/min : ± 15

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 21.00  
Tolerance mm : ± 0.50  
Del. quantity cm<sup>3</sup>/1000 strokes : 161.0  
Tolerance cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance cm<sup>3</sup>/1000S. : ± 25.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 02.01.96  
Test oil : ISO 4113  
  
Combination No. : 0 400 074 892  
  
Injection pump  
Pump designation : PES4M55C320RS167  
EP type number : 0 410 054 960

Governor  
Governor design. : RSF360/1900M70-7  
Governor no. : 0 420 021 153

Cust. part No. : T8

---

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM601-D23 A,S,CH  
Power KW : 58.0

---

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 469 990 351

Inlet press. bar : 1.0

Test nozzle holder  
assembly : 1 688 901 111

Opening pressure  
bar : 148.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 2.05  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 21.00  
Tolerance mm : ± 1.00

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

Start of delivery blocking

°NW after s.o.d. : 15.50  
Tolerance : ± 0.20  
Check  
tolerance °NW : ± 0.30

Barrel no. : 1

---

BASIC SETTING

Rated speed rpm : 1000

---

Rack travel in mm : 12.85  
Tolerance mm : ± 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 41.5

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 1.5

---

Spread

Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5

---

Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

Rated speed rpm : 335

Rack travel in mm : 5.20  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 6.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

IDLE STAGE

Rack travel in mm : 6.25  
Tolerance mm : ± 0.25

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
Ref. pressure  
ALDA / ADA hPa : 1100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 41.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 1.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

---

RATED SPEED

control lever  
position degree : 50.0

rack travel mm : 7.25  
Rated speed rpm : 2100

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 2500

---

SET IDLE CONTROL LEVER POSITION

Rated speed rpm : 1000  
CRT mm max. : 1.45

---

LOW IDLE

control lever  
position degree : 13.0  
tolerance degree : ± 2.0

Setting point w/out bumper spring  
Rated speed rpm : 335  
rack travel mm : 5.20

SET IDLE AUXILIARY SPRING

Rated speed rpm : 400  
rack travel mm : 4.00  
Tolerance mm : ± 0.10

rack travel mm : 2.50  
Rated speed rpm : 600  
Tolerance 1/min : ± 50

Load pick-up

Rated speed rpm : 250  
CRT mm min. : > 7.50

Rated speed rpm : 1000  
CRT mm max. : 1.45

rack travel mm : 5.20  
Rated speed rpm : 335

---

TORQUE CONTROL

Rated speed rpm : 1000  
rack travel mm : 12.85  
Tolerance mm : ± 0.05

Rated speed rpm : 1400  
rack travel mm : 12.35  
Tolerance mm : ± 0.15

Rated speed rpm : 1900  
rack travel mm : 11.55  
Tolerance mm : ± 0.15

Rated speed rpm : 500



rack travel mm : 12.15  
Tolerance mm : +- 0.15  
  
Rated speed rpm : 800  
rack travel mm : 12.55  
Tolerance mm : +- 0.15

---

ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 1000  
Ref. pressure  
ALDA / ADA hPa : 950  
rack travel mm : -0.10  
Tolerance mm : +- 0.10

MEASUREMENT

Rated speed rpm : 1000  
Ref. pressure  
ALDA / ADA hPa : 900  
rack travel mm : -0.60  
Tolerance mm : +- 0.10

Rated speed rpm : 1000  
Ref. pressure  
ALDA / ADA hPa : 750  
rack travel mm : -2.00  
Tolerance mm : +- 0.20

---

FUEL DELIVERY CHARACTERISTICS

Ref. pressure  
ALDA / ADA hPa : 1100  
Rated speed rpm : 1400  
Del. quantity  
cm3/1000 strokes : 40.8  
Tolerance  
cm3/1000 strokes : +- 0.8  
Check tolerance  
cm3/1000S. : +- 1.8  
Spreed  
Tolerance  
cm3/1000 strokes : 2.5  
Check tolerance  
cm3/1000S. : 3.0

Ref. pressure  
ALDA / ADA hPa : 1100  
Rated speed rpm : 1900  
Spreed  
Del. quantity  
cm3/1000 strokes : 41.0  
Tolerance  
cm3/1000 strokes : +- 1.0

Check tolerance  
cm3/1000S. : +- 2.0  
Spreed  
Tolerance  
cm3/1000 strokes : 2.5  
Check tolerance  
cm3/1000S. : 3.0

Ref. pressure  
ALDA / ADA hPa : 1100  
Rated speed rpm : 500  
Del. quantity  
cm3/1000 strokes : 36.3  
Tolerance  
cm3/1000 strokes : +- 0.8  
Check tolerance  
cm3/1000S. : +- 1.8  
Tolerance  
cm3/1000 strokes : 2.5  
Check tolerance  
cm3/1000S. : 3.0

Ref. pressure  
ALDA / ADA hPa : 1100  
Rated speed rpm : 800  
Del. quantity  
cm3/1000 strokes : 39.3  
Tolerance  
cm3/1000 strokes : +- 0.8  
Check tolerance  
cm3/1000S. : +- 1.8  
Spreed  
Tolerance  
cm3/1000 strokes : 2.5  
Check tolerance  
cm3/1000S. : 3.0

---

HIGH IDLE

Ref. pressure  
ALDA / ADA hPa : 1100

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.10  
Del. quantity  
cm3/1000 strokes : 52.0  
Spreed  
Tolerance  
cm3/1000 strokes : 6.0  
Check tolerance  
cm3/1000S. : 6.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 7.8  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 2.3  
Spreed  
Check tolerance  
cm<sup>3</sup>/1000S. : 1.5

---

SETTING PNEUMATIC FAST IDLE (ELA)

control lever  
position degree : 13.0  
tolerance degree : ± 2.0

---

SETTING/TESTING ELECTRONIC IDLE  
REGULATION (ELR)

control lever  
position degree : 13.0  
tolerance degree : ± 2.0  
Rated speed rpm : 360

Rack travel in mm : 13.00  
Tolerance mm : ± 0.70

Current A : 1.80

control lever  
position degree : 50.0  
Rated speed rpm : 2500

Rack travel in mm : 0.50  
Tolerance mm : ± 0.50

Current short-  
duration A : 3.00

Starting test

Rated speed rpm : 100

Current A : 1.80

---

ADJUSTMENT

control lever  
position degree : 50.0

---

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 335

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 28.12.95  
Test oil : ISO 4113  
Combination No. : 0 400 463 121  
Injection pump  
Pump designation : PES3A80D410/3RS1324  
EP type number : 0 410 483 017  
Governor  
Governor design. : RSV325...900A7C602  
: -4L  
Governor no. : 0 420 232 604  
Cust. part No. :

Customer-spec. information  
Customer : KHD  
Motor : F3L912

TEST BENCH REQUIREMENTS

Inlet line : 1.3  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 419 992 198  
Inlet press. bar : 1.5  
Test nozzle holder  
assembly : 0 681 343 009  
Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 1.95  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 3- 2

Phasing : 0-120-240

BASIC SETTING

Rated speed rpm : 880

Rack travel in mm : 11.20  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 50.5

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : ± 2.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5

Check tolerance  
cm<sup>3</sup>/1000S. : 4.0

Rated speed rpm : 325  
Rack travel in mm : 8.40  
Tolerance mm : +- 0.10  
Del. quantity  
cm3/1000 strokes : 11.0  
Tolerance  
cm3/1000 strokes : +- 1.5  
Check tolerance  
cm3/1000S. : +- 3.5  
Spread  
Tolerance  
cm3/1000 strokes : 4.0  
Check tolerance  
cm3/1000S. : 6.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
Rack travel in mm : 0.50  
Tolerance mm : +- 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 880  
Aneroid pressure  
hPa : -  
Del. quantity  
cm3/1000 strokes : 50.5  
Tolerance  
cm3/1000 strokes : +- 0.5  
Check tolerance  
cm3/1000S. : +- 2.0  
Spread  
Tolerance  
cm3/1000 strokes : 2.5  
Check tolerance  
cm3/1000S. : 4.0

CONTROL LEVER

control lever  
position degree : 108.0  
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 10.20  
Rated speed rpm : 925  
Tolerance 1/min : +- 5

rack travel mm : 4.00  
Rated speed rpm : 960  
Tolerance 1/min : +- 15

rack travel mm : 0.85  
Tolerance mm : +- 0.55  
Rated speed rpm : 1100

rack travel mm : 4.00  
Rated speed rpm : 975

LOW IDLE

control lever  
position degree : 77.0  
tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
rack travel mm : 7.90

Testing:

Rated speed rpm : 325  
rack travel mm : 8.40  
Tolerance mm : +- 0.10

rack travel mm : 2.00  
Rated speed rpm : 450  
Tolerance 1/min : +- 30

TORQUE CONTROL

Rated speed rpm : 880  
rack travel mm : 11.20  
Tolerance mm : +- 0.05

Rated speed rpm : 500  
rack travel mm : 11.25  
Tolerance mm : +- 0.10

BREAKAWAY

Rack travel in mm : 10.20  
Rated speed rpm : 925  
Tolerance 1/min : +- 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.25  
Tolerance mm :  $\pm$  0.75  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 125.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  7.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  10.0

---

LOW IDLE

Rated speed rpm : 325  
rack travel mm : 8.40  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  1.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  3.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 05.01.96  
Test oil : ISO 4113  
  
Combination No. : 0 400 075 925  
  
Injection pump  
Pump designation : PES5M55C320RS201  
EP type number : 0 410 055 972  
  
Governor  
Governor design. : RSF350/2500M56-13  
Governor no. : 0 420 021 171

Cust. part No. :

Customer-spec. information  
Customer : MB-PKW  
Motor : OM605  
Power KW : 83.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 1 469 990 351  
  
Inlet press. bar : 1.0  
  
Test nozzle holder  
assembly : 1 688 901 111  
  
Opening pressure  
bar : 148.5  
Tolerance bar : ± 1.5  
  
Test Lines : 1 680 750 014  
  
Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 1.75  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
  
Rack travel in mm : 21.00  
Tolerance mm : ± 1.00  
  
Firing order : 1- 2- 4- 5- 3  
  
Phasing : 0-72-144-216-288

Start of delivery blocking

°NW after s.o.d. : 16.50  
Tolerance : ± 0.20  
Check  
tolerance °NW : ± 0.30  
  
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1400  
  
Rack travel in mm : 12.75  
Tolerance mm : ± 0.05  
  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 37.0  
  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 1.5  
  
Spreed

Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5

---

Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

Rated speed rpm : 350

Rack travel in mm : 7.40  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 8.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

IDLE STAGE

Rack travel in mm : 6.25  
Tolerance mm : ± 0.25

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400  
Ref. pressure  
ALDA / ADA hPa : 1100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 37.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 1.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

---

RATED SPEED

control lever  
position degree : 50.0

rack travel mm : 7.50  
Rated speed rpm : 2700

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 3150

E07

---

SET IDLE CONTROL LEVER POSITION

Rated speed rpm : 1400

CRT mm max. : 1.95

---

LOW IDLE

Setting point w/out bumper spring  
Rated speed rpm : 350  
rack travel mm : 7.40

SET IDLE AUXILIARY SPRING

Rated speed rpm : 475  
rack travel mm : 5.40  
Tolerance mm : ± 0.10

rack travel mm : 3.00  
Rated speed rpm : 700  
Tolerance 1/min : ± 50

Load pick-up

Rated speed rpm : 250

CRT mm min. : > 10.00

Rated speed rpm : 1400

CRT mm max. : 1.95

rack travel mm : 7.40  
Rated speed rpm : 350

---

TORQUE CONTROL

Rated speed rpm : 1400  
rack travel mm : 12.75  
Tolerance mm : ± 0.05

Rated speed rpm : 2300  
rack travel mm : 12.30  
Tolerance mm : ± 0.15

Rated speed rpm : 2500  
rack travel mm : 11.90  
Tolerance mm : ± 0.15

---

ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 1400

Ref. pressure  
ALDA / ADA hPa : 940  
rack travel mm : -0.10  
Tolerance mm : + 0.10

MEASUREMENT

Rated speed rpm : 1400  
Ref. pressure  
ALDA / ADA hPa : 900  
rack travel mm : -0.40  
Tolerance mm : + 0.10

Rated speed rpm : 1400  
Ref. pressure  
ALDA / ADA hPa : 750  
rack travel mm : -1.50  
Tolerance mm : + 0.20

FUEL DELIVERY CHARACTERISTICS

Ref. pressure  
ALDA / ADA hPa : 1100  
Rated speed rpm : 2300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 39.3  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 0.8  
Check tolerance  
cm<sup>3</sup>/1000S. : + 1.8  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

Ref. pressure  
ALDA / ADA hPa : 1100  
Rated speed rpm : 2500  
Spreed  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 38.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 2.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

HIGH IDLE

Ref. pressure  
ALDA / ADA hPa : 1100

E08

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 21.60  
Tolerance mm : + 1.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 55.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 9.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 2.3  
Spreed  
Check tolerance  
cm<sup>3</sup>/1000S. : 1.5

Grad : > 49.00

Grad : < 46.50

SETTING PNEUMATIC FAST IDLE (ELA)

Rated speed rpm : 400  
Rack travel in mm : 8.25  
Tolerance mm : + 0.70  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.5  
Vacuum hPa : 400.0

SETTING/TESTING ELECTRONIC IDLE  
REGULATION (ELR)



control lever  
position degree : 50.0

---

ADJUSTMENT

control lever  
position degree : 50.0

---

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 350

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 05.01.96  
Test oil : ISO 4113  
Combination No. : 0 400 075 926  
Injection pump  
Pump designation : PES5M55C32ORS201  
EP type number : 0 410 055 972  
Governor  
Governor design. : RSF350/2500M75-3  
Governor no. : 0 420 021 173

Cust. part No. :

---

Customer-spec. information  
Customer : MB-PKW  
Motor : OM605  
Power KW : 83.0

---

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0  
Overflow valve : 1 469 990 351  
Inlet press. bar : 1.0  
Test nozzle holde  
assembly : 1 688 901 111  
Opening pressure  
bar : 148.5  
Tolerance bar : + 1.5  
Test Lines : 1 680 750 014  
Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 1.75  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 21.00  
Tolerance mm : + 1.00

Firing order : 1- 2- 4- 5- 3

Phasing : 0-72-144-216-288

Start of delivery blocking

°NW after s.o.d. : 16.50  
Tolerance : + 0.20  
Check  
tolerance °NW : + 0.30

Barrel no. : 1

---

BASIC SETTING

Rated speed rpm : 1400

---

Rack travel in mm : 12.75  
Tolerance mm : + 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 37.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : + 0.5

---

Check tolerance  
cm<sup>3</sup>/1000S. : + 1.5

---

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5

Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

Rated speed rpm : 350

Rack travel in mm : 7.40  
Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 8.5

Tolerance  
cm<sup>3</sup>/1000 strokes : + 0.5

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

IDLE STAGE

Rack travel in mm : 6.25  
Tolerance mm : + 0.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400

Ref. pressure  
ALDA / ADA hPa : 1100

Del. quantity  
cm<sup>3</sup>/1000 strokes : 37.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : + 1.5

Spread  
Tolerance

cm<sup>3</sup>/1000 strokes : 2.5

Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

RATED SPEED

control lever  
position degree : 50.0

rack travel mm : 7.50  
Rated speed rpm : 2700

rack travel mm : 0.50  
Tolerance mm : + 0.50

Rated speed rpm : 3150

SET IDLE CONTROL LEVER POSITION

Rated speed rpm : 1400

CRT mm max. : 1.95

LOW IDLE

Setting point w/out bumper spring

Rated speed rpm : 350

rack travel mm : 7.40

SET IDLE AUXILIARY SPRING

Rated speed rpm : 475

rack travel mm : 5.40

Tolerance mm : + 0.10

rack travel mm : 3.00

Rated speed rpm : 700

Tolerance 1/min : + 50

Load pick-up

Rated speed rpm : 250

CRT mm min. : > 10.00

Rated speed rpm : 1400

CRT mm max. : 1.95

rack travel mm : 7.40

Rated speed rpm : 350

TORQUE CONTROL

Rated speed rpm : 1400

rack travel mm : 12.75

Tolerance mm : + 0.05

Rated speed rpm : 2300

rack travel mm : 12.30

Tolerance mm : + 0.15

Rated speed rpm : 2500

rack travel mm : 11.90

Tolerance mm : + 0.15

ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 1400  
Ref. pressure  
ALDA / ADA hPa : 940  
rack travel mm : -0.10  
Tolerance mm : +- 0.10

#### MEASUREMENT

Rated speed rpm : 1400  
Ref. pressure  
ALDA / ADA hPa : 900  
rack travel mm : -0.40  
Tolerance mm : +- 0.10

Rated speed rpm : 1400  
Ref. pressure  
ALDA / ADA hPa : 750  
rack travel mm : -1.50  
Tolerance mm : +- 0.20

---

#### FUEL DELIVERY CHARACTERISTICS

Ref. pressure  
ALDA / ADA hPa : 1100  
Rated speed rpm : 2300  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 39.3  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 0.8  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 1.8  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

Ref. pressure  
ALDA / ADA hPa : 1100  
Rated speed rpm : 2500  
Spreed  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 38.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 2.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

---

#### HIGH IDLE

Ref. pressure  
ALDA / ADA hPa : 1100

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 21.60  
Tolerance mm : +- 1.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 55.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

---

#### LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 9.5  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 2.3  
Spreed  
Check tolerance  
cm<sup>3</sup>/1000S. : 1.5

---

Grad : > 49.00

Grad : < 46.50

---

#### SETTING PNEUMATIC FAST IDLE (ELA)

Rated speed rpm : 400  
Rack travel in mm : 8.25  
Tolerance mm : +- 0.70  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.5  
Vacuum hPa : 400.0

---

#### SETTING/TESTING ELECTRONIC IDLE REGULATION (ELR)

control lever  
position degree : 50.0

---

ADJUSTMENT

control lever  
position degree : 50.0

Rated speed rpm : 1400  
rack travel mm : 1.70  
Tolerance mm :  $\pm$  0.15

---

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 350

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 04.01.96  
Test oil : ISO 4113  
  
Combination No. : 0 400 076 954  
  
Injection pump  
Pump designation : PES6M55C320RS203  
EP type number : 0 410 056 982  
  
Governor  
Governor design. : RSF315/2500M70-10  
Governor no. : 0 420 021 175

Cust. part No. :

---

Customer-spec. information  
Customer : MB-PKW  
Motor : OM606  
Power KW : 100.0

---

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 1 469 990 351  
  
Inlet press. bar : 1.0  
  
Test nozzle holder  
assembly : 1 688 901 111  
  
Opening pressure  
bar : 148.5  
Tolerance bar : ± 1.5  
  
Test lines : 1 680 750 014  
  
Outside diameter : 6.0  
  
x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 1.75  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
  
Rack travel in mm : 21.00  
Tolerance mm : ± 1.00  
  
Firing order : 1- 5- 3- 6- 2-  
: 4  
  
Phasing : 0-60-120-180-240  
: -300

Start of delivery blocking

\*NW after s.o.d. : 16.50  
Tolerance : ± 0.20  
Check  
tolerance °NW : ± 0.30  
  
Barrel no. : 1

---

BASIC SETTING

Rated speed rpm : 1100  
  
Rack travel in mm : 13.35  
Tolerance mm : ± 0.05  
  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 39.0  
  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 1.5  
  
Speed

Tolerance  
 cm<sup>3</sup>/1000 strokes : 2.5

---

Check tolerance  
 cm<sup>3</sup>/1000S. : 3.0

Rated speed rpm : 290

Rack travel in mm : 7.30  
 Tolerance mm : + 0.10

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 8.5  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 0.5

Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

---

IDLE STAGE

Rack travel in mm : 6.25  
 Tolerance mm : + 0.25

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
 Ref. pressure  
 ALDA / ADA hPa : 1100  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 39.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 0.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 1.5  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 2.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 3.0

---

RATED SPEED

control lever  
 position degree : 50.0

rack travel mm : 8.70  
 Rated speed rpm : 2700

rack travel mm : 1.00  
 Tolerance mm : + 1.00  
 Rated speed rpm : 3000

---

SET IDLE CONTROL LEVER POSITION

Rated speed rpm : 1100  
 CRT mm max. : 1.95

---

LOW IDLE

control lever  
 position degree : 10.5  
 tolerance degree : + 2.0

Setting point w/out bumper spring  
 Rated speed rpm : 290  
 rack travel mm : 7.30

SET IDLE AUXILIARY SPRING

Rated speed rpm : 400  
 rack travel mm : 6.00  
 Tolerance mm : + 0.10

rack travel mm : 3.00  
 Rated speed rpm : 700  
 Tolerance 1/min : + 50

Load pick-up

Rated speed rpm : 220  
 CRT mm min. : 9.90

Rated speed rpm : 1100  
 CRT mm max. : 1.95

rack travel mm : 7.30  
 Rated speed rpm : 290

---

TORQUE CONTROL

Rated speed rpm : 1100  
 rack travel mm : 13.35  
 Tolerance mm : + 0.05

Rated speed rpm : 2000  
 rack travel mm : 12.75  
 Tolerance mm : + 0.15

Rated speed rpm : 2500  
 rack travel mm : 12.25  
 Tolerance mm : + 0.15

Rated speed rpm : 500

rack travel mm : 12.50  
Tolerance mm : +- 0.15  
Rated speed rpm : 900  
rack travel mm : 13.10  
Tolerance mm : +- 0.15

---

ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 1100  
Ref. pressure  
ALDA / ADA hPa : 940  
rack travel mm : -0.10  
Tolerance mm : +- 0.10

MEASUREMENT

Rated speed rpm : 1100  
Ref. pressure  
ALDA / ADA hPa : 900  
rack travel mm : -0.40  
Tolerance mm : +- 0.10

Rated speed rpm : 1100  
Ref. pressure  
ALDA / ADA hPa : 750  
rack travel mm : -1.50  
Tolerance mm : +- 0.20

---

FUEL DELIVERY CHARACTERISTICS

Ref. pressure  
ALDA / ADA hPa : 1100  
Rated speed rpm : 2000  
Del. quantity  
cm3/1000 strokes : 40.1  
Tolerance  
cm3/1000 strokes : +- 0.8  
Check tolerance  
cm3/1000S. : +- 1.8  
Spreed  
Tolerance  
cm3/1000 strokes : 2.5  
Check tolerance  
cm3/1000S. : 3.0

Ref. pressure  
ALDA / ADA hPa : 1100  
Rated speed rpm : 2500  
Spreed  
Del. quantity  
cm3/1000 strokes : 39.5  
Tolerance  
cm3/1000 strokes : +- 1.0

Check tolerance  
cm3/1000S. : +- 2.0  
Spreed  
Tolerance  
cm3/1000 strokes : 2.5  
Check tolerance  
cm3/1000S. : 3.0

Ref. pressure  
ALDA / ADA hPa : 1100  
Rated speed rpm : 500  
Del. quantity  
cm3/1000 strokes : 32.9  
Tolerance  
cm3/1000 strokes : +- 0.8  
Check tolerance  
cm3/1000S. : +- 1.8  
Tolerance  
cm3/1000 strokes : 2.5  
Check tolerance  
cm3/1000S. : 3.0

Ref. pressure  
ALDA / ADA hPa : 1100  
Rated speed rpm : 900  
Del. quantity  
cm3/1000 strokes : 37.3  
Tolerance  
cm3/1000 strokes : +- 0.8  
Check tolerance  
cm3/1000S. : +- 1.8  
Spreed  
Tolerance  
cm3/1000 strokes : 2.5  
Check tolerance  
cm3/1000S. : 3.0

---

HIGH IDLE

Ref. pressure  
ALDA / ADA hPa : 1100

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 21.60  
Tolerance mm : +- 1.50  
Del. quantity  
cm3/1000 strokes : 59.0  
Tolerance  
cm3/1000 strokes : +- 4.0  
Check tolerance  
cm3/1000S. : +- 5.0  
Spreed  
Tolerance  
cm3/1000 strokes : 8.0



Check tolerance  
cm<sup>3</sup>/1000S. : 8.5

---

LOW IDLE

Rated speed rpm : 290  
rack travel mm : 7.50  
Tolerance mm :  $\pm$  0.15  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 9.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  2.3  
Spreed  
Check tolerance  
cm<sup>3</sup>/1000S. : 1.5

---

SETTING PNEUMATIC FAST IDLE (ELA)

control lever  
position degree : 10.5  
tolerance degree :  $\pm$  2.0

---

SETTING/TESTING ELECTRONIC IDLE  
REGULATION (ELR)

control lever  
position degree : 10.5  
tolerance degree :  $\pm$  2.0  
Rated speed rpm : 315

Rack travel in mm : 13.20  
Tolerance mm :  $\pm$  0.70  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 34.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.5

Current A : 1.80

control lever  
position degree : 50.0  
Rated speed rpm : 3000

Rack travel in mm : 1.00  
Tolerance mm :  $\pm$  1.00

Current short-  
duration A : 3.00

Starting test

Rated speed rpm : 100  
Current A : 1.80

---

ADJUSTMENT

control lever  
position degree : 50.0

---

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 290

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 05.01.96  
Test oil : ISO 4113  
  
Combination No. : 0 400 076 955  
  
Injection pump  
Pump designation : PES6M55C32ORS203  
EP type number : 0 410 056 982  
  
Governor  
Governor design. : RSF315/2500M76  
Governor no. : 0 420 021 174

Cust. part No. :

Customer-spec. information  
Customer : MB-PKW  
Motor : OM606  
Power KW : 100.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 1 469 990 351  
  
Inlet press. bar : 1.0  
  
Test nozzle holde  
assembly : 1 688 901 111  
  
Opening pressure  
bar : 148.5  
Tolerance bar : ± 1.5  
  
Test lines : 1 680 750 014  
  
Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 1.75  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
  
Rack travel in mm : 21.00  
Tolerance mm : ± 1.00  
  
Firing order : 1- 5- 3- 6- 2-  
: 4  
  
Phasing : 0-60-120-180-240  
: -300

Start of delivery blocking

\*NW after s.o.d. : 16.50  
Tolerance : ± 0.20  
Check  
tolerance °NW : ± 0.30  
  
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100  
  
Rack travel in mm : 13.35  
Tolerance mm : ± 0.05  
  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 39.0  
  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 1.5  
  
Speed

Tolerance  
 cm<sup>3</sup>/1000 strokes : 2.5

---

Check tolerance  
 cm<sup>3</sup>/1000S. : 3.0

Rated speed rpm : 300

Rack travel in mm : 7.30  
 Tolerance mm : + 0.10

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 8.5

Tolerance  
 cm<sup>3</sup>/1000 strokes : + 0.5

Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

\_\_\_\_\_

IDLE STAGE

Rack travel in mm : 6.25  
 Tolerance mm : + 0.25

\_\_\_\_\_

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
 Ref. pressure  
 ALDA / ADA hPa : 1100  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 39.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 0.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 1.5  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 2.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 3.0

\_\_\_\_\_

RATED SPEED

control lever  
 position degree : 50.0

rack travel mm : 8.70  
 Rated speed rpm : 2700

rack travel mm : 1.00  
 Tolerance mm : + 1.00  
 Rated speed rpm : 3000

\_\_\_\_\_

SET IDLE CONTROL LEVER POSITION

Rated speed rpm : 1100  
 CRT mm max. : 1.95

\_\_\_\_\_

LOW IDLE

control lever  
 position degree : 10.5  
 tolerance degree : + 2.0

Setting point w/out bumper spring

Rated speed rpm : 300  
 rack travel mm : 7.30

SET IDLE AUXILIARY SPRING

Rated speed rpm : 400  
 rack travel mm : 6.00  
 Tolerance mm : + 0.10

rack travel mm : 3.00  
 Rated speed rpm : 700  
 Tolerance 1/min : + 50

Load pick-up

Rated speed rpm : 220  
 CRT mm min. : 9.80

Rated speed rpm : 1100  
 CRT mm max. : 1.95

rack travel mm : 7.30  
 Rated speed rpm : 300

\_\_\_\_\_

TORQUE CONTROL

Rated speed rpm : 1100  
 rack travel mm : 13.35  
 Tolerance mm : + 0.05

Rated speed rpm : 2000  
 rack travel mm : 12.75  
 Tolerance mm : + 0.15

Rated speed rpm : 2500  
 rack travel mm : 12.25  
 Tolerance mm : + 0.15

Rated speed rpm : 500

rack travel mm : 12.50  
Tolerance mm : +- 0.15  
  
Rated speed rpm : 900  
rack travel mm : 13.10  
Tolerance mm : +- 0.15

---

ADJUSTMENT TEST ADA/ALDA

SETTING

Rated speed rpm : 1100  
Ref. pressure  
ALDA / ADA hPa : 940  
rack travel mm : -0.10  
Tolerance mm : +- 0.10

MEASUREMENT

Rated speed rpm : 1100  
Ref. pressure  
ALDA / ADA hPa : 900  
rack travel mm : -0.40  
Tolerance mm : +- 0.10

Rated speed rpm : 1100  
Ref. pressure  
ALDA / ADA hPa : 750  
rack travel mm : -1.50  
Tolerance mm : +- 0.20

---

FUEL DELIVERY CHARACTERISTICS

Ref. pressure  
ALDA / ADA hPa : 1100  
Rated speed rpm : 2000  
Del. quantity  
cm3/1000 strokes : 40.1  
Tolerance  
cm3/1000 strokes : +- 0.8  
Check tolerance  
cm3/1000S. : +- 1.8  
Spreed  
Tolerance  
cm3/1000 strokes : 2.5  
Check tolerance  
cm3/1000S. : 3.0

Ref. pressure  
ALDA / ADA hPa : 1100  
Rated speed rpm : 2500  
Spreed  
Del. quantity  
cm3/1000 strokes : 39.5  
Tolerance  
cm3/1000 strokes : +- 1.0

Check tolerance  
cm3/1000S. : +- 2.0  
Spreed  
Tolerance  
cm3/1000 strokes : 2.5  
Check tolerance  
cm3/1000S. : 3.0

Ref. pressure  
ALDA / ADA hPa : 1100  
Rated speed rpm : 500  
Del. quantity  
cm3/1000 strokes : 32.6  
Tolerance  
cm3/1000 strokes : +- 0.8  
Check tolerance  
cm3/1000S. : +- 1.8  
Tolerance  
cm3/1000 strokes : 2.5  
Check tolerance  
cm3/1000S. : 3.0

Ref. pressure  
ALDA / ADA hPa : 1100  
Rated speed rpm : 900  
Del. quantity  
cm3/1000 strokes : 36.9  
Tolerance  
cm3/1000 strokes : +- 0.8  
Check tolerance  
cm3/1000S. : +- 1.8  
Spreed  
Tolerance  
cm3/1000 strokes : 2.5  
Check tolerance  
cm3/1000S. : 3.0

---

HIGH IDLE

Ref. pressure  
ALDA / ADA hPa : 1100

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 21.60  
Tolerance mm : +- 1.50  
Del. quantity  
cm3/1000 strokes : 55.0  
Tolerance  
cm3/1000 strokes : +- 4.0  
Check tolerance  
cm3/1000S. : +- 5.0  
Spreed  
Tolerance  
cm3/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 7.30  
Tolerance mm : +- 0.15  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 9.5  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 2.3  
Spreed  
Check tolerance  
cm<sup>3</sup>/1000S. : 1.5

---

SETTING PNEUMATIC FAST IDLE (ELA)

control lever  
position degree : 10.5  
tolerance degree : +- 2.0

---

SETTING/TESTING ELECTRONIC IDLE  
REGULATION (ELR)

control lever  
position degree : 10.5  
tolerance degree : +- 2.0  
Rated speed rpm : 315

Rack travel in mm : 13.20  
Tolerance mm : +- 0.70  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 34.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.5

Current A : 1.80

control lever  
position degree : 50.0  
Rated speed rpm : 3000

Rack travel in mm : 1.00  
Tolerance mm : +- 1.00

Current short-  
duration A : 3.00

Starting test

Rated speed rpm : 100  
Current A : 1.80

---

ADJUSTMENT

control lever  
position degree : 50.0

Rated speed rpm : 1100  
rack travel mm : 1.70  
Tolerance mm : +- 0.20

---

TESTING PNEUMATIC SHUTOFF DEVICE

Rated speed rpm : 300

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 10.01.96  
Test oil : ISO 4113  
Combination No. : 0 400 836 036  
Injection pump  
Pump designation : PES6A85D410/3RS2761  
EP type number : 0 410 886 895  
Governor  
Governor design. : RQV300...1250AB1188  
: -1L  
Governor no. : 0 420 212 205

Cust. part No. :

Customer-spec. information

Customer : KHD  
Motor : BF6L913  
Power KW : 118.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 2.55  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 12.35  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 88.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : ± 2.5

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0

Check tolerance  
 cm<sup>3</sup>/1000S. : 7.0  
 Rated speed rpm : 300  
 Rack travel in mm : 7.80  
 Tolerance mm : + 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 13.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 4.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 7.0

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.35  
 Tolerance mm : + 0.05  
 Rated speed rpm : 1300  
 guide sleeve  
 travel mm : 8.95  
 Tolerance mm : + 0.05  
 Rated speed rpm : 380  
 guide sleeve  
 travel mm : 2.60  
 Tolerance mm : + 0.10  
 Rated speed rpm : 430  
 guide sleeve  
 travel mm : 3.20  
 Tolerance mm : + 0.10  
 Rated speed rpm : 1390  
 guide sleeve  
 travel mm : 10.15  
 Tolerance mm : + 0.05

GUIDE SLEEVE POSITION

Rated speed rpm : 1265  
 Rack travel in mm : 16.50  
 Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
 Aneroid pressure  
 hPa : 700  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 88.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 0.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 2.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 7.0

CONTROL LEVER

control lever  
 position degree : 125.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 11.30  
 Rated speed rpm : 1295  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1395  
 Tolerance 1/min : + 15  
 rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1500

LOW IDLE

control lever  
 position degree : 72.0  
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 7.80  
 Tolerance mm : + 0.10  
 Rated speed rpm : 100  
 CRT mm min. : > 9.30

Rated speed rpm : 405

---

TORQUE CONTROL

Dimension a mm : 0.80  
Rated speed rpm : 1250  
rack travel mm : 12.35  
Tolerance mm : ± 0.05

Rated speed rpm : 500  
rack travel mm : 13.15  
Tolerance mm : ± 0.05

Rated speed rpm : 750  
rack travel mm : 12.90  
Tolerance mm : ± 0.10

Rated speed rpm : 820  
rack travel mm : 12.90  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 700  
rack travel mm : 12.90  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 11.35  
Tolerance mm : ± 0.10

Rated speed rpm : 500

Pressure hPa : 350  
rack travel mm : 11.70  
Tolerance mm : ± 0.05

---

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 220

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 240

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 700  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 89.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.5  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 3.5

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 63.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 2.5

---

BREAKAWAY

Rack travel in mm : 11.30  
Rated speed rpm : 1295  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 17.20  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 125.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 7.5  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 10.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 7.80  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 4.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.5



Check tolerance  
cm<sup>3</sup>/1000s. : 7.0

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 03.01.96  
Test oil : ISO 4113

Combination No. : 0 401 876 735

Injection pump  
Pump designation : PE6P120A320RS3088  
EP type number : 0 411 826 720

Governor  
Governor design. : RSV200...1000P4/421R  
Governor no. : 0 421 833 142

Cust. part No. : 847612 P09 v. 9/95

Customer-spec. information

Customer : PENTA  
Motor : TD120HP

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 010

Inlet press. bar : 1.5

Test nozzle holde  
assembly : 1 688 901 019

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 2.45  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

Start of delivery mark

Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 11.90  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 180.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0

---

Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0

---

Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 250

Rack travel in mm : 4.10  
 Tolerance mm : + 0.20

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 18.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 2.0

Check tolerance  
 cm<sup>3</sup>/1000S. : + 5.0

Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
 cm<sup>3</sup>/1000S. : 7.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50  
 Tolerance mm : + 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 180.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0

Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

CONTROL LEVER

control lever  
 position degree : 58.0  
 tolerance degree : + 4.0

control lever  
 position degree : 108.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.90  
 Rated speed rpm : 1025  
 Tolerance 1/min : + 5

rack travel mm : 4.00  
 Rated speed rpm : 1075  
 Tolerance 1/min : + 15

rack travel mm : 1.00  
 Tolerance mm : + 0.70  
 Rated speed rpm : 1210

LOW IDLE

control lever  
 position degree : 72.0  
 tolerance degree : + 4.0

control lever  
 position degree : 22.0  
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 250  
 rack travel mm : 3.60

Testing:

Rated speed rpm : 250  
 rack travel mm : 4.10  
 Tolerance mm : + 0.10

rack travel mm : 2.00  
 Rated speed rpm : 310  
 Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 700  
 rack travel mm : 11.90  
 Tolerance mm : + 0.05

---

BREAKAWAY

Rack travel in mm : 10.90  
Rated speed rpm : 1025  
Tolerance 1/min :  $\pm$  5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 415.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  25.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  29.0

---

LOW IDLE

Rated speed rpm : 250  
rack travel mm : 4.10  
Tolerance mm :  $\pm$  0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 22.12.95  
Test oil : ISO 4113  
Combination No. : 0 402 046 871  
Injection pump  
Pump designation : PES6P120A72ORS3356  
EP type number : 0 412 026 783  
Governor  
Governor design. : RQV450...1050PA1245  
Governor no. : 0 421 814 161

Cust. part No. :

Customer-spec. information  
Customer : IVECO-FRANCE  
Motor : 8465.41.006

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Test nozzle holder assembly : 1 688 901 105

Opening pressure bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant. per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.55  
Tolerance mm : ± 0.05  
Check tolerance mm : ± 0.10

Rack travel in mm : 10.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check tolerance °NW : ± 0.50

BASIC SETTING

Rated speed rpm : 1050

Rack travel in mm : 9.35  
Tolerance mm : ± 0.05

Del. quantity cm<sup>3</sup>/1000 strokes : 158.0

Tolerance cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance cm<sup>3</sup>/1000s. : ± 4.0

Speed Tolerance cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0  
 Rated speed rpm : 450  
 Rack travel in mm : > 5.00  
 Tolerance mm : + 0.20  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 24.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 6.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 450  
 guide sleeve  
 travel mm : 2.70  
 Tolerance mm : + 0.20  
 Rated speed rpm : 1110  
 guide sleeve  
 travel mm : 7.40  
 Tolerance mm : + 0.15  
 Rated speed rpm : 836  
 guide sleeve  
 travel mm : 5.75  
 Tolerance mm : + 0.25  
 Rated speed rpm : 580  
 guide sleeve  
 travel mm : 3.80  
 Tolerance mm : + 0.25  
 Rated speed rpm : 1550  
 guide sleeve  
 travel mm : 11.50  
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1405  
 Rack travel in mm : 8.30  
 Tolerance mm : + 2.70

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 158.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

CONTROL LEVER

control lever  
 position degree : 118.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 8.30  
 Rated speed rpm : 1135  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1225  
 Tolerance 1/min : + 15  
 rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1400

LOW IDLE

control lever  
 position degree : 71.0  
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 450  
 rack travel mm : 5.00  
 Tolerance mm : + 0.10  
 Rated speed rpm : 350  
 CRT mm min. : > 6.50

Rated speed rpm : 515

---

TORQUE CONTROL

Rated speed rpm : 1050  
rack travel mm : 9.35  
Tolerance mm :  $\pm$  0.05

Rated speed rpm : 800  
rack travel mm : 9.85  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 950  
rack travel mm : 9.55  
Tolerance mm :  $\pm$  0.10

Rated speed rpm : 600  
rack travel mm : 9.90  
Tolerance mm :  $\pm$  0.15

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 170.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  5.0

---

BREAKAWAY

Rack travel in mm : 8.30  
Rated speed rpm : 1135  
Tolerance 1/min :  $\pm$  5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 19.50  
Tolerance mm :  $\pm$  1.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 130.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  15.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  19.0

---

LOW IDLE

Rated speed rpm : 450  
rack travel mm :  $>$  5.00  
Tolerance mm :  $\pm$  0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 24.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 09.01.96  
Test oil : ISO 4113  
  
Combination No. : 0 402 076 759  
  
Injection pump  
Pump designation : PES6P120A720RS3322  
EP type number : 0 412 026 764  
  
Governor  
Governor design. : RSV650...1250P8A567  
Governor no. : 0 421 833 416

Cust. part No. :

Customer-spec. information  
Customer : FNH-GEOTECH  
Power KW : 201.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 2 417 413 086  
  
Inlet press. bar : 1.5  
  
Test nozzle holde  
assembly : 1 688 901 103  
  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
  
Test lines : 1 680 750 089  
  
Outside diameter : 8.0  
x inside diameter : 3.0

F04

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 3.60  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
  
Firing order : 1- 5- 3- 6- 2-  
: 4  
  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50  
  
Start of delivery blocking  
  
Check  
tolerance °NW : ± 0.30  
  
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250  
  
Rack travel in mm : 11.65  
Tolerance mm : ± 0.10  
  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 157.5



Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 1.0  


---

 Check tolerance  
 cm<sup>3</sup>/1000S. : +- 4.0  


---

 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  


---

 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0  
  
 Rated speed rpm : 650  
  
 Rack travel in mm : 4.80  
 Tolerance mm : +- 0.20  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 21.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : +- 6.0  
 Spread  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
  
 Rack travel in mm : 0.50  
 Tolerance mm : +- 0.20  
  
 governor spring  
 pre-tension  
 click setting x : 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
 Aneroid pressure  
 hPa : 1000  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 157.5  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : +- 4.0  
 Spread

Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

CONTROL LEVER

control lever  
 position degree : 109.0  
 tolerance degree : +- 4.0

RATED SPEED

Rated speed rpm : 1330

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 1293  
 rack travel mm : 10.65

Rated speed rpm : 1325  
 Tolerance 1/min : +- 5  
 rack travel mm : 4.00

rack travel mm : 0.85  
 Tolerance mm : +- 0.55  
 Rated speed rpm : 1500

Rated speed rpm : 1294  
 rack travel mm : 10.65

Rated speed rpm : 1326  
 Tolerance 1/min : +- 5  
 rack travel mm : 4.00

rack travel mm : 0.85  
 Tolerance mm : +- 0.55

Rated speed rpm : 1295  
 rack travel mm : 10.65

Rated speed rpm : 1327  
 Tolerance 1/min : +- 5  
 rack travel mm : 4.00

rack travel mm : 0.85  
 Tolerance mm : +- 0.55

Rated speed rpm : 1296  
 rack travel mm : 10.65

Rated speed rpm : 1328  
 Tolerance 1/min : +- 5  
 rack travel mm : 4.00

rack travel mm : 0.85  
 Tolerance mm : +- 0.55

Rated speed rpm : 1297  
rack travel mm : 10.65

Rated speed rpm : 1329  
Tolerance 1/min : +- 5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : +- 0.55

Rated speed rpm : 1298  
rack travel mm : 10.65

Rated speed rpm : 1330  
Tolerance 1/min : +- 5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : +- 0.55

---

#### LOW IDLE

control lever  
position degree : 79.0  
tolerance degree : +- 4.0

#### Setting point w/out bumper spring

Rated speed rpm : 650  
rack travel mm : 4.30

#### Testing:

Rated speed rpm : 650  
rack travel mm : 4.80  
Tolerance mm : +- 0.10

rack travel mm : 2.00  
Rated speed rpm : 770  
Tolerance 1/min : +- 50

---

#### TORQUE CONTROL

Rated speed rpm : 1250  
rack travel mm : 11.65  
Tolerance mm : +- 0.10

Rated speed rpm : 900  
rack travel mm : 12.10  
Tolerance mm : +- 0.10

Rated speed rpm : 700  
rack travel mm : 12.15  
Tolerance mm : +- 0.15

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1000  
rack travel mm : 12.10  
Tolerance mm : +- 0.10

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 7.90  
Tolerance mm : +- 0.10

Rated speed rpm : 500

Pressure hPa : 490  
rack travel mm : 11.05  
Tolerance mm : +- 0.05

---

#### START CUT-OUT

Rated speed rpm : > 100

Check  
speed 1/min : > 80

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1000  
Rated speed rpm : 900  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 176.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 84.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 210.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  15.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  19.0

---

LOW IDLE

Rated speed rpm : 650  
rack travel mm : 4.80  
Tolerance mm :  $\pm$  0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 26.10.95  
Test oil : ISO 4113  
  
Combination No. : 0 402 610 802  
  
Injection pump  
Pump designation : PE12P120A500/6LS7866  
EP type number : 0 412 620 836  
  
Governor  
Governor design. :  
Governor no. :

Cust. part No. : 0240742902

Customer-spec. information  
Customer : MTU  
Motor : 12V183-02

TEST BENCH REQUIREMENTS

Inlet line : 3.1,3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5

Overflow quantity  
min. l/h : 110  
Tolerance l/h : + 10.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 4.45  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 20.50  
Tolerance mm : + 0.50

Firing order : 12- 1- 5- 9- 8  
: - 3- 4- 11- 10  
: - 2- 6- 7

Phasing : 0-45-60-105-120  
: -165-180-225-240  
: -285-300-345  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50

Start of delivery mark

Barrel no. : 12

BASIC SETTING

Rated speed rpm : 750

Rack travel in mm : 10.45  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 184.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 11.0

Rated speed rpm : 300

Rack travel in mm : 6.00  
Tolerance mm : ± 0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.1

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 10.0

Check tolerance  
cm<sup>3</sup>/1000S. : 14.0

---

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Aneroid pressure  
hPa : -

Del. quantity  
cm<sup>3</sup>/1000 strokes : 184.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 11.0

---

TORQUE CONTROL

Rated speed rpm : 750  
rack travel mm : 10.45

Tolerance mm : ± 0.05

---

LOW IDLE

Rated speed rpm : 300

rack travel mm : 6.00

Tolerance mm : ± 0.20

Del. quantity

cm<sup>3</sup>/1000 strokes : 18.0

Tolerance

cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance

cm<sup>3</sup>/1000S. : ± 6.1

Spreed

Tolerance

cm<sup>3</sup>/1000 strokes : 10.0

Check tolerance

cm<sup>3</sup>/1000S. : 14.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 08.01.96  
Test oil : ISO 4113  
  
Combination No. : 0 402 640 812  
  
Injection pump  
Pump designation : PE12P120A520LS7820  
EP type number : 0 412 620 814  
  
Governor  
Governor design. : RGV350...1150PA870  
: -4  
Governor no. : 0 421 813 717  
  
Cust. part No. : 0170742602

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM 444 LA  
Power KW : 736.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
  
Test oil inlet temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 2 417 413 077  
  
Inlet press. bar : 1.5  
Tolerance bar : ± 0.1  
  
Tolerance L/h : ± 10.0  
  
Test nozzle holder assembly : 1 688 901 105  
  
Opening pressure bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 075  
Outside diameter : 8.0  
x inside diameter : 2.5  
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 4.45  
Tolerance mm : ± 0.05  
Check tolerance mm : ± 0.10  
  
Rack travel in mm : 20.00  
Tolerance mm : ± 1.00  
  
Firing order : 12- 1- 5- 9- 8  
: - 3- 4- 11- 10  
: - 2- 6- 7  
  
Phasing : 0-45-60-105-120  
: -165-180-225-240  
: -285-300-345  
Tolerance : ± 0.30  
Check tolerance °NW : ± 0.50  
  
Start of delivery mark  
Barrel no. : 12

BASIC SETTING

Rated speed rpm : 1150  
  
Rack travel in mm : 15.30  
Tolerance mm : ± 0.05  
  
Del. quantity cm<sup>3</sup>/1000 strokes : 306.0

<hr/>	
Tolerance	
cm3/1000 strokes	: +- 1.0
<hr/>	
Check tolerance	
cm3/1000S.	: +- 4.0
<hr/>	
Spreed	
Tolerance	
cm3/1000 strokes	: 6.0
<hr/>	
Check tolerance	
cm3/1000S.	: 10.0
<hr/>	
Rated speed rpm	: 350
<hr/>	
Rack travel in mm	: 5.60
Tolerance mm	: +- 0.30
Del. quantity	
cm3/1000 strokes	: 15.0
Tolerance	
cm3/1000 strokes	: +- 3.0
Check tolerance	
cm3/1000S.	: +- 6.0
Spreed	
Tolerance	
cm3/1000 strokes	: 8.0
Check tolerance	
cm3/1000S.	: 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 350
guide sleeve	
travel mm	: 1.55
Tolerance mm	: +- 0.15
<hr/>	
Rated speed rpm	: 1206
guide sleeve	
travel mm	: 8.15
Tolerance mm	: +- 0.20
<hr/>	
Rated speed rpm	: 600
guide sleeve	
travel mm	: 3.55
Tolerance mm	: +- 0.25
<hr/>	
Rated speed rpm	: 960
guide sleeve	
travel mm	: 5.55
Tolerance mm	: +- 0.25
<hr/>	
Rated speed rpm	: 1291
guide sleeve	
travel mm	: 10.05

Tolerance mm : +- 0.25

GUIDE SLEEVE POSITION

Rated speed rpm	: 1275
<hr/>	
Rack travel in mm	: 16.50
Tolerance mm	: +- 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1150
Aneroid pressure	
hPa	: 1300
Del. quantity	
cm3/1000 strokes	: 306.0
Tolerance	
cm3/1000 strokes	: +- 1.0
Check tolerance	
cm3/1000S.	: +- 4.0
Spreed	
Tolerance	
cm3/1000 strokes	: 6.0
Check tolerance	
cm3/1000S.	: 10.0

CONTROL LEVER

control lever	
position degree	: 117.0
tolerance degree	: +- 4.0

RATED SPEED

rack travel mm	: 14.30
Rated speed rpm	: 1195
Tolerance 1/min	: +- 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1285
Tolerance 1/min	: +- 15
<hr/>	
rack travel mm	: 0.50
Tolerance mm	: +- 0.50
Rated speed rpm	: 1350

LOW IDLE

control lever	
position degree	: 66.0
tolerance degree	: +- 4.0

Testing:

Rated speed rpm : 350  
rack travel mm : 5.60  
Tolerance mm : ± 0.10

Rated speed rpm : 250  
CRT mm min. : > 7.30

Rated speed rpm : 475

---

TORQUE CONTROL

Rated speed rpm : 1150  
rack travel mm : 15.30  
Tolerance mm : ± 0.05

Rated speed rpm : 750  
rack travel mm : 15.40  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1300  
rack travel mm : 15.30  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 8.45  
Tolerance mm : ± 0.15

Rated speed rpm : 500

Pressure hPa : 300  
rack travel mm : 10.20  
Tolerance mm : ± 0.05

Pressure hPa : 1100  
rack travel mm : 13.80  
Tolerance mm : ± 0.15

---

START CUT-OUT

Rated speed rpm : > 200  
Rated speed rpm : < 310

Check  
speed 1/min : > 180

Check  
speed 1/min : < 330

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1300  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 315.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 8.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 15.0

Aneroid pressure  
hPa : 1300  
Rated speed rpm : 1150  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 234.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 15.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 124.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 15.0

---

BREAKAWAY

Rack travel in mm : 14.30  
Rated speed rpm : 1195  
Tolerance 1/min : ± 5



---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 331.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 10.0  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 14.0

---

LOW IDLE

Rated speed rpm : 350  
rack travel mm : 5.60  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 15.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 12.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 04.01.96  
Test oil : ISO 4113

Combination No. : 0 402 746 604

Injection pump  
Pump designation : PES6P120A72ORS7366  
EP type number : 0 412 726 933

Governor  
Governor design. : RQV275...1100PA1208  
: -1K  
Governor no. : 0 421 815 492

Cust. part No. :

Customer-spec. information  
Customer : IVECO-FRANCE  
Motor : 8460.41C-3000

TEST BENCH REQUIREMENTS

Inlet line : 4.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 076

Inlet press. bar : 2.5  
Tolerance bar : +- 0.1

Overflow quantity  
min. L/h : 160  
Tolerance L/h : +- 10.0

Test nozzle holde  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : +- 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : +- 1.0

Prestroke mm : 2.85  
Tolerance mm : +- 0.05  
Check  
tolerance mm : +- 0.10

Rack travel in mm : 20.50  
Tolerance mm : +- 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : +- 0.30  
Check  
tolerance °NW : +- 0.50

Start of delivery mark

Check  
tolerance °NW : +- 0.40

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100

Rack travel in mm : 11.65  
Tolerance mm : +- 0.05

Del. quantity cm <sup>3</sup> /1000 strokes	: 235.0
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: ± 4.0
<hr/>	
Spread Tolerance cm <sup>3</sup> /1000 strokes	: 5.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S.	: 9.0
Rated speed rpm	: 275
Rack travel in mm	: 6.40
Tolerance mm	: ± 0.20
Del. quantity cm <sup>3</sup> /1000 strokes	: 19.0
Tolerance cm <sup>3</sup> /1000 strokes	: ± 3.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 6.0
Spread Tolerance cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance cm <sup>3</sup> /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 275
guide sleeve travel mm	: 1.70
Tolerance mm	: ± 0.20
<hr/>	
Rated speed rpm	: 1180
guide sleeve travel mm	: 10.07
Tolerance mm	: ± 0.15
<hr/>	
Rated speed rpm	: 802
guide sleeve travel mm	: 6.49
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 460
guide sleeve travel mm	: 3.77
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 1440

guide sleeve travel mm	: 13.50
Tolerance mm	: ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	: 1295
Rack travel in mm	: 10.65
Tolerance mm	: ± 2.70

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1100
Aneroid pressure hPa	: 1200
Del. quantity cm <sup>3</sup> /1000 strokes	: 235.0
Tolerance cm <sup>3</sup> /1000 strokes	: ± 1.0
Check tolerance cm <sup>3</sup> /1000S.	: ± 4.0
Spread Tolerance cm <sup>3</sup> /1000 strokes	: 5.0
Check tolerance cm <sup>3</sup> /1000S.	: 9.0

CONTROL LEVER

control lever position degree	: 118.0
tolerance degree	: ± 4.0

RATED SPEED

rack travel mm	: 10.60
Rated speed rpm	: 1145
Tolerance 1/min	: ± 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1245
Tolerance 1/min	: ± 15
<hr/>	
rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1350

LOW IDLE

control lever position degree	: 75.0
tolerance degree	: ± 4.0

### Testing:

Rated speed rpm : 275  
rack travel mm : 6.40  
Tolerance mm : ± 0.10

Rated speed rpm : 175  
CRT mm min. : > 7.90  
Rated speed rpm : 315

---

### TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 11.65  
Tolerance mm : ± 0.05

Rated speed rpm : 800  
rack travel mm : 11.40  
Tolerance mm : ± 0.10

Rated speed rpm : 550  
rack travel mm : 11.30  
Tolerance mm : ± 0.10

Rated speed rpm : 500  
rack travel mm : 11.30  
Tolerance mm : ± 0.20

---

### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 1100  
Pressure hPa : 1200  
rack travel mm : 11.65  
Tolerance mm : ± 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1100  
rack travel mm : 9.30  
Tolerance mm : ± 0.20

Rated speed rpm : 1100

Pressure hPa : 230  
rack travel mm : 9.95  
Tolerance mm : ± 0.20

Pressure hPa : 360  
rack travel mm : 11.15  
Tolerance mm : ± 0.05

---

### START CUT-OUT

Rated speed rpm : > 180  
Rated speed rpm : < 220

Check speed 1/min : > 160  
Check speed 1/min : < 240

---

### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1200  
Rated speed rpm : 800  
Del. quantity cm<sup>3</sup>/1000 strokes : 215.0  
Tolerance cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance cm<sup>3</sup>/1000S. : ± 6.0

Aneroid pressure hPa : 1200  
Rated speed rpm : 550  
Del. quantity cm<sup>3</sup>/1000 strokes : 202.0  
Tolerance cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance cm<sup>3</sup>/1000S. : ± 6.0

Aneroid pressure hPa : -  
Rated speed rpm : 550  
Del. quantity cm<sup>3</sup>/1000 strokes : 138.5  
Tolerance cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance cm<sup>3</sup>/1000S. : ± 4.0

---

### BREAKAWAY

Rack travel in mm : 10.60  
Rated speed rpm : 1145  
Tolerance 1/min : ± 5

---

### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 11.90  
Tolerance mm : ± 0.50

Del. quantity  
cm<sup>3</sup>/1000 strokes : 115.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 19.0

---

LOW IDLE

Rated speed rpm : 275  
rack travel mm : 6.40  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 10.01.96  
Test oil : ISO 4113  
Combination No. : 0 403 466 176  
Injection pump  
Pump designation : PES6MW100/120RS1240  
EP type number : 0 413 406 239  
Governor  
Governor design. : RSV400...1000MW2A396  
Governor no. : 0 420 085 284  
Cust. part No. : 3929174

Customer-spec. information  
Customer : CDC  
Motor : 6 CT-830  
Power KW : 160.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 417 413 047  
Inlet press. bar : 1.5  
Test nozzle holder assembly : 1 688 901 101  
Opening pressure bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
Prestroke mm : 3.35  
Tolerance mm : ± 0.05  
Check tolerance mm : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check tolerance °NW : ± 0.75  
Start of delivery blocking  
°NW after s.o.d. : 8.00  
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000  
Rack travel in mm : 12.40  
Tolerance mm : ± 0.05  
Del. quantity cm<sup>3</sup>/1000 strokes : 146.0  
Tolerance cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance	
cm3/1000S.	: + 4.0
<hr/>	
Spreed	
Tolerance	
cm3/1000 strokes	: 4.0
<hr/>	
Check tolerance	
cm3/1000S.	: 7.5
<hr/>	
Rated speed rpm	: 400
<hr/>	
Rack travel in mm	: 5.60
Tolerance mm	: + 0.30
Del. quantity	
cm3/1000 strokes	: 20.0
Tolerance	
cm3/1000 strokes	: + 2.0
Check tolerance	
cm3/1000S.	: + 4.5
Spreed	
Tolerance	
cm3/1000 strokes	: 3.5
Check tolerance	
cm3/1000S.	: 5.5

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm	: 800
<hr/>	
Rack travel in mm	: 0.65
Tolerance mm	: + 0.35
<hr/>	
governor spring	
pre-tension	
click setting x	: 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1000
Aneroid pressure	
hPa	: 1200
Del. quantity	
cm3/1000 strokes	: 146.0
Tolerance	
cm3/1000 strokes	: + 1.0
Check tolerance	
cm3/1000S.	: + 4.0
Spreed	
Tolerance	
cm3/1000 strokes	: 4.0

Check tolerance	
cm3/1000S.	: 7.5

CONTROL LEVER

control lever	
position degree	: 92.0
tolerance degree	: + 4.0

RATED SPEED

rack travel mm	: 11.40
Rated speed rpm	: 1045
Tolerance 1/min	: + 5

rack travel mm	: 4.00
Rated speed rpm	: 1125
Tolerance 1/min	: + 15

rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1300

rack travel mm	: 4.00
Rated speed rpm	: 1135

LOW IDLE

control lever	
position degree	: 76.0
tolerance degree	: + 4.0

Setting point w/out bumper spring

Rated speed rpm	: 400
rack travel mm	: 5.10

Testing:

Rated speed rpm	: 400
rack travel mm	: 5.60
Tolerance mm	: + 0.30

TORQUE CONTROL

Rated speed rpm	: 1000
rack travel mm	: 12.40
Tolerance mm	: + 0.05

Rated speed rpm	: 750
rack travel mm	: 12.40
Tolerance mm	: + 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1200  
rack travel mm : 12.40  
Tolerance mm : ± 0.10

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.80  
Tolerance mm : ± 0.05

Rated speed rpm : 500

Pressure hPa : 750  
rack travel mm : 11.80  
Tolerance mm : ± 0.15

Pressure hPa : 600  
rack travel mm : 11.10  
Tolerance mm : ± 0.10

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 149.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 118.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 11.40  
Rated speed rpm : 1045  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.00  
Tolerance mm : ± 1.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 145.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 13.0

---

LOW IDLE

Rated speed rpm : 400  
rack travel mm : 5.60  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 09.01.96  
Test oil : ISO 4113  
Combination No. : 0 403 474 025  
Injection pump  
Pump designation : PES4MW100/720RS1235  
EP type number : 0 413 404 121  
Governor  
Governor design. : RSV350...1200MWOA346  
: -3  
Governor no. : 0 420 085 179  
Cust. part No. : 0260740602

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM 364 A  
Power KW : 77.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 419 992 198  
Inlet press. bar : 1.5  
Test nozzle holder  
assembly : 1 688 901 101  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test Lines : 1 680 750 089  
Outside diameter : 8.0

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x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
Prestroke mm : 3.75  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 3- 4- 2  
Phasing : 0-90-180-270  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1200  
Rack travel in mm : 13.20  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 88.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0  
 Rated speed rpm : 350  
 Rack travel in mm : 7.00  
 Tolerance mm : + 0.40  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 12.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 5.5

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.65  
 Tolerance mm : + 0.35  
 governor spring  
 pre-tension  
 click setting x : 5.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1200  
 Aneroid pressure  
 hPa : 700  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 88.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 3.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0

CONTROL LEVER

control lever  
 position degree : 102.0

tolerance degree : + 4.0

RATED SPEED

rack travel mm : 1.00  
 Tolerance mm : + 0.70  
 Rated speed rpm : 1450

rack travel mm : 4.00  
 Rated speed rpm : 1335

rack travel mm : 12.20  
 Rated speed rpm : 1245  
 Tolerance 1/min : + 8

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 1240  
 rack travel mm : 12.20

Rated speed rpm : 1289  
 Tolerance 1/min : + 4  
 rack travel mm : 4.00

Rated speed rpm : 1241  
 rack travel mm : 12.20

Rated speed rpm : 1290  
 Tolerance 1/min : + 4  
 rack travel mm : 4.00

Rated speed rpm : 1242  
 rack travel mm : 12.20

Rated speed rpm : 1291  
 Tolerance 1/min : + 4  
 rack travel mm : 4.00

Rated speed rpm : 1243  
 rack travel mm : 12.20

Rated speed rpm : 1292  
 Tolerance 1/min : + 4  
 rack travel mm : 4.00

Rated speed rpm : 1244  
 rack travel mm : 12.20

Rated speed rpm : 1293  
 Tolerance 1/min : + 4  
 rack travel mm : 4.00

Rated speed rpm : 1245  
 rack travel mm : 12.20

Rated speed rpm : 1294  
 Tolerance 1/min : + 4  
 rack travel mm : 4.00

---

LOW IDLE

Testing:

Rated speed rpm : 350  
rack travel mm : 7.00  
Tolerance mm : ± 0.40

Rated speed rpm : 100

CRT mm min. : > 19.00

---

TORQUE CONTROL

Rated speed rpm : 1200  
rack travel mm : 13.20  
Tolerance mm : ± 0.05

Rated speed rpm : 600  
rack travel mm : 14.00  
Tolerance mm : ± 0.10

Rated speed rpm : 1000  
rack travel mm : 13.60  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 700  
rack travel mm : 14.00  
Tolerance mm : ± 0.10

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
Tolerance mm : ± 0.10

Rated speed rpm : 500

Pressure hPa : 375  
rack travel mm : 1.45  
Tolerance mm : ± 0.15

Pressure hPa : 200  
rack travel mm : 0.50  
Tolerance mm : ± 0.05

---

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 700  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 87.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 50.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 80.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 8.0

---

LOW IDLE

Rated speed rpm : 350  
rack travel mm : 7.00  
Tolerance mm : ± 0.40  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000s. : 5.5

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.01.96  
Test oil : ISO 4113  
Combination No. : 0 401 876 808  
Injection pump  
Pump designation : PE6P120A32ORS3355  
EP type number : 0 411 826 814  
Governor  
Governor design. : RSV300...1100P1A604  
Governor no. : 0 421 833 485  
Cust. part No. : 3825516 P03 v. 11/95

Customer-spec. information  
Customer : PENTA  
Motor : TD1030ME  
Power KW : 190.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 2 417 413 077  
Inlet press. bar : 2.5  
Tolerance bar : ± 0.1  
Overflow quantity min. L/h : 85  
Tolerance L/h : ± 10.0  
Test nozzle holder assembly : 1 688 901 101  
Opening pressure bar : 208.5  
Tolerance bar : ± 1.5

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Test lines : 1 680 750 008  
Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
Prestroke mm : 3.45  
Tolerance mm : ± 0.05  
Check tolerance mm : ± 0.10  
Rack travel in mm : 9.90  
Tolerance mm : ± 0.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check tolerance °NW : ± 0.50  
Start of delivery mark  
Tolerance : ± 0.50  
Check tolerance °NW : ± 0.75  
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100  
Rack travel in mm : 12.50  
Tolerance mm : ± 0.05

<hr/>	
Del. quantity	
cm <sup>3</sup> /1000 strokes :	156.0
<hr/>	
Tolerance	
cm <sup>3</sup> /1000 strokes :	+ 1.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S. :	+ 4.0
<hr/>	
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes :	7.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S. :	11.0
<hr/>	
Rated speed rpm :	300
<hr/>	
Rack travel in mm :	4.70
Tolerance mm :	+ 0.20
Del. quantity	
cm <sup>3</sup> /1000 strokes :	23.0
Tolerance	
cm <sup>3</sup> /1000 strokes :	+ 2.5
Check tolerance	
cm <sup>3</sup> /1000S. :	+ 5.0
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes :	3.0
Check tolerance	
cm <sup>3</sup> /1000S. :	6.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

---

GUIDE SLEEVE POSITION

Rated speed rpm :	800
<hr/>	
Rack travel in mm :	0.85
Tolerance mm :	+ 0.55
<hr/>	
governor spring	
pre-tension	
click setting x :	4.75

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	1100
Aneroid pressure	
hPa :	1500
Del. quantity	
cm <sup>3</sup> /1000 strokes :	156.0
Tolerance	
cm <sup>3</sup> /1000 strokes :	+ 1.0

Check tolerance	
cm <sup>3</sup> /1000S. :	+ 4.0
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes :	7.0
Check tolerance	
cm <sup>3</sup> /1000S. :	11.0

---

CONTROL LEVER

control lever	
position degree :	62.0
tolerance degree :	+ 4.0
<hr/>	
control lever	
position degree :	112.0
tolerance degree :	+ 4.0

RATED SPEED

rack travel mm :	11.50
Rated speed rpm :	1135
Tolerance 1/min :	+ 5
<hr/>	
rack travel mm :	4.00
Rated speed rpm :	1190
Tolerance 1/min :	+ 15
<hr/>	
rack travel mm :	0.85
Tolerance mm :	+ 0.55
Rated speed rpm :	1300
<hr/>	
rack travel mm :	4.00
Rated speed rpm :	1195

---

LOW IDLE

control lever	
position degree :	76.0
tolerance degree :	+ 4.0
<hr/>	
control lever	
position degree :	26.0
tolerance degree :	+ 4.0

Setting point w/out bumper spring

Rated speed rpm :	300
rack travel mm :	4.20

Testing:

Rated speed rpm :	300
rack travel mm :	4.70
Tolerance mm :	+ 0.10

rack travel mm : 2.00  
Rated speed rpm : 380  
Tolerance 1/min : +- 30

---

#### TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 12.50  
Tolerance mm : +- 0.05

Rated speed rpm : 700  
rack travel mm : 12.50  
Tolerance mm : +- 0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 12.50  
Tolerance mm : +- 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 9.55  
Tolerance mm : +- 0.10

Rated speed rpm : 500

Pressure hPa : 555  
rack travel mm : 2.30  
Tolerance mm : +- 0.15

Pressure hPa : 140  
rack travel mm : 0.25  
Tolerance mm : +- 0.05

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 178.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000s. : +- 6.0  
Spread

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Tolerance  
cm<sup>3</sup>/1000 strokes : 7.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 11.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 127.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000s. : +- 4.0

---

#### BREAKAWAY

Rack travel in mm : 11.50  
Rated speed rpm : 1135  
Tolerance 1/min : +- 5

---

#### LOW IDLE

Rated speed rpm : 300  
rack travel mm : 4.70  
Tolerance mm : +- 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 23.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.5  
Check tolerance  
cm<sup>3</sup>/1000s. : +- 5.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 6.0

---

End of test specification sheet

# BOSCH INJ. PUMP TEST SPECIFICATIONS

## Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 10.01.96  
Test oil : ISO 4113

Combination No. : 0 401 876 813

Injection pump  
Pump designation : PE6P110A320RS3364  
EP type number : 0 411 816 798

Governor  
Governor design. : RSV300...900P1A624  
Governor no. : 0 421 833 535

Cust. part No. : 11030179  
: -P02 v.12/95

---

Customer-spec. information  
Customer : VME  
Motor : TD 63 KEE  
Power KW : 105.0

---

## TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper  
(RoBo diaphragm) : 4.2

Test oil inlet temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 046

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Test nozzle holder assembly : 1 688 901 101

Opening pressure bar : 208.5  
Tolerance bar : ± 1.5

F28

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

---

## REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

## BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 2.45  
Tolerance mm : ± 0.05  
Check tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

---

## BASIC SETTING

Rated speed rpm : 550

---

Rack travel in mm : 11.60  
Tolerance mm : ± 0.05

---

Del. quantity cm<sup>3</sup>/1000 strokes : 145.0



<hr/>	
Tolerance	
cm <sup>3</sup> /1000 strokes	: + 1.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: + 3.0
<hr/>	
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 4.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: 7.5
<hr/>	
Rated speed rpm	: 300
<hr/>	
Rack travel in mm	: 4.80
Tolerance mm	: + 0.20
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 26.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: + 2.0
Check tolerance	
cm <sup>3</sup> /1000S.	: + 4.5
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 3.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 6.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm	: 800
<hr/>	
Rack travel in mm	: 0.50
Tolerance mm	: + 0.20
<hr/>	
governor spring	
pre-tension	
click setting x	: 5.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 550
Aneroid pressure	
hPa	: 1500
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 145.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: + 1.0
Check tolerance	
cm <sup>3</sup> /1000S.	: + 3.0
Spreed	

Tolerance	
cm <sup>3</sup> /1000 strokes	: 4.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 7.5

CONTROL LEVER

control lever	
position degree	: 51.0
tolerance degree	: + 4.0

control lever	
position degree	: 101.0
tolerance degree	: + 4.0

RATED SPEED

rack travel mm	: 10.20
Rated speed rpm	: 930
Tolerance 1/min	: + 5

rack travel mm	: 4.00
Rated speed rpm	: 990
Tolerance 1/min	: + 15

rack travel mm	: 0.85
Tolerance mm	: + 0.55
Rated speed rpm	: 1150

LOW IDLE

control lever	
position degree	: 76.0
tolerance degree	: + 4.0

control lever	
position degree	: 26.0
tolerance degree	: + 4.0

Setting point w/out bumper spring

Rated speed rpm	: 300
rack travel mm	: 4.30

Testing:

Rated speed rpm	: 300
rack travel mm	: 4.80
Tolerance mm	: + 0.10

rack travel mm	: 2.00
Rated speed rpm	: 450
Tolerance 1/min	: + 30

---

TORQUE CONTROL

Rated speed rpm : 550  
rack travel mm : 11.60  
Tolerance mm : ± 0.05

Rated speed rpm : 900  
rack travel mm : 11.20  
Tolerance mm : ± 0.10

Rated speed rpm : 765  
rack travel mm : 11.50  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 550  
Pressure hPa : 1500  
rack travel mm : 11.60  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 550  
rack travel mm : 9.00  
Tolerance mm : ± 0.10

Rated speed rpm : 550

Pressure hPa : 620  
rack travel mm : 2.30  
Tolerance mm : ± 0.20

Pressure hPa : 90  
rack travel mm : 0.25  
Tolerance mm : ± 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 900  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 133.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0  
Spreed

---

Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 550  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 87.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 10.20  
Rated speed rpm : 930  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 103.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 14.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 4.80  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 26.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 17.01.96  
Test oil : ISO 4113  
Combination No. : 0 402 046 300  
Injection pump  
Pump designation : PES6P120A320RS419  
EP type number : 0 412 026 037  
Governor  
Governor design. : RQV275...1100PA495  
: -5  
Governor no. : 0 421 813 446  
Cust. part No. : CCEP 5023 E 06-09

Customer-spec. information

Customer : RVI  
Motor : MIDR 062045  
Power KW : 191.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 417 413 025  
Inlet press. bar : 1.5  
Test nozzle holder  
assembly : 1 688 901 019  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 075  
Outside diameter : 8.0

G04

x inside diameter : 3.0  
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
Prestroke mm : 2.85  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50  
Start of delivery mark  
°NW after s.o.d. : 10.50  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75  
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100  
Rack travel in mm : 9.05  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 163.0

<hr/>	
Tolerance	
cm <sup>3</sup> /1000 strokes	: + 1.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: + 4.0
<hr/>	
Spread	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 5.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: 9.0
<hr/>	
Rated speed rpm	: 275
<hr/>	
Rack travel in mm	: -4.10
Tolerance mm	: + 0.20
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 24.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: + 3.0
Check tolerance	
cm <sup>3</sup> /1000S.	: + 6.0
Spread	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 250
guide sleeve	
travel mm	: 1.10
Tolerance mm	: + 0.10
<hr/>	
Rated speed rpm	: 1100
guide sleeve	
travel mm	: 8.10
Tolerance mm	: + 0.10
<hr/>	
Rated speed rpm	: 450
guide sleeve	
travel mm	: 3.60
Tolerance mm	: + 0.20
<hr/>	
Rated speed rpm	: 850
guide sleeve	
travel mm	: 6.20
Tolerance mm	: + 0.10

GUIDE SLEEVE POSITION

Rated speed rpm	: 1150
Rack travel in mm	: 16.50
Tolerance mm	: + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1100
Aneroid pressure	
hPa	: 700
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 163.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: + 1.0
Check tolerance	
cm <sup>3</sup> /1000S.	: + 4.0
Spread	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 5.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 9.0

CONTROL LEVER

control lever	
position degree	: 64.0
tolerance degree	: + 4.0
<hr/>	
control lever	
position degree	: 124.0
tolerance degree	: + 4.0

RATED SPEED

rack travel mm	: -1.00
Rated speed rpm	: 1175
Tolerance 1/min	: + 5
<hr/>	
rack travel mm	: -5.00
Rated speed rpm	: 1240
Tolerance 1/min	: + 15
<hr/>	
rack travel mm	: -8.55
Tolerance mm	: + 0.50
Rated speed rpm	: 1350

LOW IDLE

control lever	
position degree	: 68.0
tolerance degree	: + 4.0
<hr/>	
control lever	
position degree	: 9.0

tolerance degree : + 4.0

Testing:

Rated speed rpm : 275  
rack travel mm : -4.10  
Tolerance mm : + 0.10

Rated speed rpm : 200

CRT mm max. : < -2.40

Rated speed rpm : 343

---

TORQUE CONTROL

Rated speed rpm : 1100

Rated speed rpm : 700

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 700

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : -1.10  
Tolerance mm : + 0.20

Rated speed rpm : 500

Pressure hPa : 195  
rack travel mm : -0.80  
Tolerance mm : + 0.10

Pressure hPa : 220  
rack travel mm : -0.35  
Tolerance mm : + 0.05

---

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 195

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 215

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 700  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 153.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 103.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

---

BREAKAWAY

Rack travel in mm : -1.00  
Rated speed rpm : 1175  
Tolerance 1/min : + 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 150.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 14.0

---

LOW IDLE

Rated speed rpm : 275  
rack travel mm : -4.10  
Tolerance mm : + 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 24.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0  
Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 15.01.96  
Test oil : ISO 4113  
  
Combination No. : 0 402 046 824  
  
Injection pump  
Pump designation : PES6P120A320RS3279  
: -1  
EP type number : 0 412 026 758  
  
Governor  
Governor design. : RQ275/1050PA999-5  
Governor no. : 0 421 801 663  
  
Cust. part No. : CCEP-5112B 66-175

Customer-spec. information  
Customer : RVI  
Motor : MIHR 062045 A/3  
Power KW : 186.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 2 417 413 078  
  
Inlet press. bar : 2.5  
Tolerance bar : ± 0.1  
  
Test nozzle holde  
assembly : 1 688 901 105  
  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
  
Test lines : 1 680 750 089

Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 3.55  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
  
Firing order : 1- 5- 3- 6- 2-  
: 4  
  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50  
  
Start of delivery mark  
  
Barrel no. : 1  
  
Beginning of delivery differende  
and maximum rack  
travel : 10.50  
Tolerance mm : ± 0.50  
  
BASIC SETTING  
  
Rated speed rpm : 700  
  
Rack travel in mm : 11.25  
Tolerance mm : ± 0.05



Del. quantity  
cm<sup>3</sup>/1000 strokes : 158.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 275

Rack travel in mm : -4.50  
Tolerance mm : ± 0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
guide sleeve  
travel mm : 2.35  
Tolerance mm : ± 0.10

Rated speed rpm : 1126  
guide sleeve  
travel mm : 6.38  
Tolerance mm : ± 0.10

Rated speed rpm : 1050  
guide sleeve  
travel mm : 6.00  
Tolerance mm : ± 0.10

Rated speed rpm : 582  
guide sleeve  
travel mm : 5.14  
Tolerance mm : ± 0.10

Rated speed rpm : 710

guide sleeve  
travel mm : 6.00  
Tolerance mm : ± 0.10

Rated speed rpm : 1380  
guide sleeve  
travel mm : 11.50  
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 750

Rack travel in mm : 20.00  
Tolerance mm : ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
Aneroid pressure  
hPa : 1000

Del. quantity  
cm<sup>3</sup>/1000 strokes : 158.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

CONTROL LEVER

control lever  
position degree : 274.0  
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : -1.00  
Rated speed rpm : 1138  
Tolerance 1/min : ± 8

rack travel mm : -7.20  
Rated speed rpm : 1245  
Tolerance 1/min : ± 15

rack travel mm : -10.75  
Tolerance mm : ± 0.55  
Rated speed rpm : 1350

LOW IDLE

control lever  
position degree : 253.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 275  
rack travel mm : -4.50  
Tolerance mm : ± 0.10

rack travel mm : -9.25  
Rated speed rpm : 580  
Tolerance 1/min : ± 20

Rated speed rpm : 200

CRT mm max. : < -3.00

---

TORQUE CONTROL

Rated speed rpm : 700

Rated speed rpm : 1050  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1000

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : -1.20  
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 220  
rack travel mm : -0.45  
Tolerance mm : ± 0.15

Pressure hPa : 160  
rack travel mm : -0.85  
Tolerance mm : ± 0.05

---

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 195

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 215

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1000  
Rated speed rpm : 1050  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 154.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 114.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : -1.00  
Rated speed rpm : 1138  
Tolerance 1/min : ± 8

---

STARTING FUEL DELIVERY

Del. quantity  
cm<sup>3</sup>/1000 strokes : 155.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 14.0

---

LOW IDLE

Rated speed rpm : 275  
rack travel mm : -4.50  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 09.01.96  
Test oil : ISO 4113  
  
Combination No. : 0 402 076 771  
  
Injection pump  
Pump designation : PES6P120A720RS3340  
EP type number : 0 412 026 773  
  
Governor  
Governor design. : RSV650...1100P8A566  
: -1  
Governor no. : 0 421 833 452  
  
Cust. part No. :

Customer-spec. information  
Customer : FNH-GEOTECH  
Power KW : 201.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 2 417 413 086  
  
Inlet press. bar : 1.5  
  
Test nozzle holde  
assembly : 1 688 901 103  
  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
  
Test lines : 1 680 750 089  
  
Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 3.60  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
  
Firing order : 1- 5- 3- 6- 2-  
: 4  
  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50  
  
Start of delivery blocking  
Check  
tolerance °NW : ± 0.30  
  
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1075  
  
Rack travel in mm : 12.35  
Tolerance mm : ± 0.05

Del. quantity	
cm <sup>3</sup> /1000 strokes	: 183.0
<hr/>	
Tolerance	
cm <sup>3</sup> /1000 strokes	: ± 1.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: ± 6.0
<hr/>	
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 5.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: 9.0
<hr/>	
Rated speed rpm	: 650
<hr/>	
Rack travel in mm	: 4.60
Tolerance mm	: ± 0.20
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 23.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: ± 3.0
Check tolerance	
cm <sup>3</sup> /1000S.	: ± 6.0
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm	: 800
<hr/>	
Rack travel in mm	: 0.50
Tolerance mm	: ± 0.20
<hr/>	
governor spring	
pre-tension	
click setting x	: 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1075
Aneroid pressure	
hPa	: 1600
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 183.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: ± 1.0

Check tolerance	
cm <sup>3</sup> /1000S.	: ± 6.0
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 5.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 9.0

CONTROL LEVER

control lever	
position degree	: 97.0
tolerance degree	: ± 4.0

RATED SPEED

rack travel mm	: 4.00
Rated speed rpm	: 1165

ASSEMBLY GOVERNOR SETTING

Rated speed rpm	: 1121
rack travel mm	: 11.30

Rated speed rpm	: 1152
Tolerance 1/min	: ± 5
rack travel mm	: 4.00

rack travel mm	: 0.85
Tolerance mm	: ± 0.55
Rated speed rpm	: 1350

Rated speed rpm	: 1122
rack travel mm	: 11.30

Rated speed rpm	: 1153
Tolerance 1/min	: ± 5
rack travel mm	: 4.00

rack travel mm	: 0.85
Tolerance mm	: ± 0.55

Rated speed rpm	: 1123
rack travel mm	: 11.30

Rated speed rpm	: 1154
Tolerance 1/min	: ± 5
rack travel mm	: 4.00

rack travel mm	: 0.85
Tolerance mm	: ± 0.55

Rated speed rpm	: 1124
rack travel mm	: 11.30

Rated speed rpm	: 1155
Tolerance 1/min	: ± 5
rack travel mm	: 4.00

rack travel mm : 0.85  
Tolerance mm : ± 0.55

Rated speed rpm : 1125  
rack travel mm : 11.30

Rated speed rpm : 1156  
Tolerance 1/min : ± 5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : ± 0.55

Rated speed rpm : 1126  
rack travel mm : 11.30

Rated speed rpm : 1157  
Tolerance 1/min : ± 5  
rack travel mm : 4.00

rack travel mm : 0.85  
Tolerance mm : ± 0.55

---

#### LOW IDLE

control lever  
position degree : 78.0  
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 650  
rack travel mm : 4.10

Testing:

Rated speed rpm : 650  
rack travel mm : 4.60  
Tolerance mm : ± 0.10

rack travel mm : 2.00  
Rated speed rpm : 750

---

#### TORQUE CONTROL

Rated speed rpm : 1075  
rack travel mm : 12.35  
Tolerance mm : ± 0.05

Rated speed rpm : 800  
rack travel mm : 13.15  
Tolerance mm : ± 0.10

Rated speed rpm : 700  
rack travel mm : 13.20  
Tolerance mm : ± 0.15

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1600  
rack travel mm : 13.20  
Tolerance mm : ± 0.15

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 7.60  
Tolerance mm : ± 0.15

Rated speed rpm : 500

Pressure hPa : 1060  
rack travel mm : 11.80  
Tolerance mm : ± 0.10

---

#### START CUT-OUT

Rated speed rpm : > 100

Check  
speed 1/min : > 80

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1600  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 210.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 83.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : + 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 150.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 19.0

---

LOW IDLE

Rated speed rpm : 650  
rack travel mm : 4.60  
Tolerance mm : + 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 23.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 23.06.95  
Test oil : ISO 4113

Combination No. : 0 402 646 626

Injection pump  
Pump designation : PE6P120A320RS7299  
EP type number : 0 412 626 885

Governor  
Governor design. : RQV275...1000PA1076K  
Governor no. : 0 421 815 357

Cust. part No. : 1280160

Customer-spec. information

Customer : DAF  
Motor : WS 268 M  
Power KW : 268.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Overflow quantity  
min. l/h : 160  
Tolerance l/h : ± 20.0

Test nozzle holder  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.85  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 980

Rack travel in mm : 13.55  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 250.0



Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0

---

Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0

---

Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 275

Rack travel in mm : 5.60  
 Tolerance mm : + 0.10

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 17.0

Tolerance  
 cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
 cm<sup>3</sup>/1000S. : + 6.0

Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275  
 guide sleeve  
 travel mm : 2.14  
 Tolerance mm : + 0.15

Rated speed rpm : 1045  
 guide sleeve  
 travel mm : 9.82  
 Tolerance mm : + 0.20

Rated speed rpm : 689  
 guide sleeve  
 travel mm : 6.43  
 Tolerance mm : + 0.25

Rated speed rpm : 284  
 guide sleeve  
 travel mm : 2.27  
 Tolerance mm : + 0.25

Rated speed rpm : 334  
 guide sleeve  
 travel mm : 3.17  
 Tolerance mm : + 0.25

Rated speed rpm : 390  
 guide sleeve  
 travel mm : 3.79  
 Tolerance mm : + 0.25

Rated speed rpm : 1310  
 guide sleeve  
 travel mm : 13.50  
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1130

Rack travel in mm : 12.60  
 Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 980  
 Aneroid pressure  
 hPa : -

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 250.0

Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0

Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

CONTROL LEVER

control lever  
 position degree : 120.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 12.55  
 Rated speed rpm : 1042  
 Tolerance 1/min : + 5

rack travel mm : 4.00  
 Rated speed rpm : 1160  
 Tolerance 1/min : + 15

rack travel mm : 0.70  
 Tolerance mm : + 0.70  
 Rated speed rpm : 1275

---

LOW IDLE

control lever  
position degree : 76.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 275  
rack travel mm : 4.80  
Tolerance mm : ± 0.10

rack travel mm : 2.00  
Rated speed rpm : 390  
Tolerance 1/min : ± 20

Rated speed rpm : 175

CRT mm min. : > 7.50

---

TORQUE CONTROL

Rated speed rpm : 980  
rack travel mm : 13.55  
Tolerance mm : ± 0.05

Rated speed rpm : 750  
rack travel mm : 13.05  
Tolerance mm : ± 0.10

Rated speed rpm : 825  
rack travel mm : 13.30  
Tolerance mm : ± 0.20

Rated speed rpm : 600  
rack travel mm : 12.10  
Tolerance mm : ± 0.20

Rated speed rpm : 500  
rack travel mm : 11.70  
Tolerance mm : ± 0.15

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 980  
Pressure hPa : 1500  
rack travel mm : 13.55  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 980  
rack travel mm : 8.60  
Tolerance mm : ± 0.10

Rated speed rpm : 980

Pressure hPa : 720  
rack travel mm : 12.25  
Tolerance mm : ± 0.05

Pressure hPa : 360  
rack travel mm : 9.80  
Tolerance mm : ± 0.10

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 263.0  
Tolerance

cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 154.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 12.55  
Rated speed rpm : 1042  
Tolerance 1/min : ± 5

---

LOW IDLE

Rated speed rpm : 275  
rack travel mm : 5.60  
Tolerance mm : +- 0.10  
Del. quantity  
cm3/1000 strokes : 17.0  
Tolerance  
cm3/1000 strokes : +- 3.0  
Check tolerance  
cm3/1000S. : +- 6.0  
Spreed  
Tolerance  
cm3/1000 strokes : 8.0  
Check tolerance  
cm3/1000S. : 12.0



---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.01.96  
Test oil : ISO 4113  
Combination No. : 0 402 646 665  
Injection pump  
Pump designation : PE6P130A720RS7354  
EP type number : 0 412 636 835  
Governor  
Governor design. : RQV300...950PA1002  
: -3K  
Governor no. : 0 421 815 491  
Cust. part No. :

Customer-spec. information  
Customer : IVECO-FRANCE  
Motor : 8210.42K.3000

TEST BENCH REQUIREMENTS

Inlet line : 4.2  
Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0  
Overflow valve : 2 417 413 076  
Inlet press. bar : 2.5  
Tolerance bar : + 0.1  
Test nozzle holde  
assembly : 1 688 901 105  
Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5  
Test lines : 1 680 750 075  
Outside diameter : 8.0

G20

x inside diameter : 3.0  
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0  
Prestroke mm : 5.05  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10  
Rack travel in mm : 12.00  
Tolerance mm : + 0.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50  
Start of delivery mark  
Check  
tolerance °NW : + 0.40  
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 950  
Rack travel in mm : 12.05  
Tolerance mm : + 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 244.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: + 4.0
<hr/>	
Spread	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 5.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: 9.0
<hr/>	
Rated speed rpm	: 300
<hr/>	
Rack travel in mm	: 4.70
Tolerance mm	: + 0.20
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 22.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: + 3.0
Check tolerance	
cm <sup>3</sup> /1000S.	: + 6.0
Spread	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 300
guide sleeve	
travel mm	: 1.64
Tolerance mm	: + 0.20
<hr/>	
Rated speed rpm	: 1025
guide sleeve	
travel mm	: 9.00
Tolerance mm	: + 0.15
<hr/>	
Rated speed rpm	: 764
guide sleeve	
travel mm	: 6.22
Tolerance mm	: + 0.25
<hr/>	
Rated speed rpm	: 500
guide sleeve	
travel mm	: 3.78
Tolerance mm	: + 0.25
<hr/>	
Rated speed rpm	: 1330
guide sleeve	
travel mm	: 13.50
Tolerance mm	: + 0.50

---

GUIDE SLEEVE POSITION

Rated speed rpm	: 1190
<hr/>	
Rack travel in mm	: 11.00
Tolerance mm	: + 2.70

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 950
Aneroid pressure	
hPa	: 1000
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 244.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: + 1.0
Check tolerance	
cm <sup>3</sup> /1000S.	: + 4.0
Spread	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 5.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 9.0

---

CONTROL LEVER

control lever	
position degree	: 114.0
tolerance degree	: + 4.0

RATED SPEED

rack travel mm	: 11.00
Rated speed rpm	: 1015
Tolerance 1/min	: + 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1115
Tolerance 1/min	: + 15
<hr/>	
rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 1250

---

LOW IDLE

control lever	
position degree	: 69.0
tolerance degree	: + 4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 4.70  
Tolerance mm : ± 0.10

Rated speed rpm : 200  
CRT mm min. : > 6.20

Rated speed rpm : 355

---

#### TORQUE CONTROL

Rated speed rpm : 950  
rack travel mm : 12.05  
Tolerance mm : ± 0.05

Rated speed rpm : 700  
rack travel mm : 11.85  
Tolerance mm : ± 0.10

Rated speed rpm : 550  
rack travel mm : 11.40  
Tolerance mm : ± 0.10

Rated speed rpm : 300  
rack travel mm : 10.90  
Tolerance mm : ± 0.30

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 950  
Pressure hPa : 1000  
rack travel mm : 12.05  
Tolerance mm : ± 0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 950  
rack travel mm : 8.40  
Tolerance mm : ± 0.20

Rated speed rpm : 950

Pressure hPa : 290  
rack travel mm : 9.35  
Tolerance mm : ± 0.20

Pressure hPa : 500  
rack travel mm : 11.10  
Tolerance mm : ± 0.05

---

#### START CUT-OUT

G22

Rated speed rpm : > 180  
Rated speed rpm : < 220

Check  
speed 1/min : > 160  
Check  
speed 1/min : < 240

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1000  
Rated speed rpm : 550  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 264.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 550  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 174.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

#### BREAKAWAY

Rack travel in mm : 11.00  
Rated speed rpm : 1015  
Tolerance 1/min : ± 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.25  
Tolerance mm : ± 0.75  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 160.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 19.0

---

#### LOW IDLE

Rated speed rpm : 300

rack travel mm : 4.70  
Tolerance mm : +- 0.20  
Del. quantity  
cm3/1000 strokes : 22.0  
Tolerance  
cm3/1000 strokes : +- 3.0  
Check tolerance  
cm3/1000S. : +- 6.0  
Spreed  
Tolerance  
cm3/1000 strokes : 8.0  
Check tolerance  
cm3/1000S. : 12.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 02.06.95  
Test oil : ISO 4113  
Combination No. : 0 402 646 757  
Injection pump  
Pump designation : PE6P120A320LS7836  
: -10  
EP type number : 0 412 626 854  
Governor  
Governor design. : RQ300/1050PA1030-25  
Governor no. : 0 421 801 771  
Cust. part No. : 0260743002

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM401 LA  
Power KW : 200.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 417 413 047  
Inlet press. bar : 1.5  
Tolerance bar : ± 0.1  
Tolerance l/h : ± 10.0  
Test nozzle holde  
assembly : 1 688 901 105  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 075  
Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
Prestroke mm : 5.55  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
Rack travel in mm : 20.50  
Tolerance mm : ± 0.50  
Firing order : 6- 3- 5- 2- 4-  
: 1-  
Phasing : 0-60-120-180-240  
: -300-360  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 6

BASIC SETTING

Rated speed rpm : 1050  
Rack travel in mm : 13.00  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 190.0



Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : 5.80  
Tolerance mm : ± 0.30

Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

Rated speed rpm : 600

Rack travel in mm : 20.00  
Tolerance mm : ± 0.80

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050  
Aneroid pressure  
hPa : 800

Del. quantity  
cm<sup>3</sup>/1000 strokes : 190.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

CONTROL LEVER

control lever  
position degree : 95.0  
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 12.00  
Rated speed rpm : 1098  
Tolerance 1/min : ± 8

rack travel mm : 4.00  
Rated speed rpm : 1185  
Tolerance 1/min : ± 15

rack travel mm : 0.75  
Tolerance mm : ± 0.75  
Rated speed rpm : 1300

---

LOW IDLE

control lever  
position degree : 72.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 5.80  
Tolerance mm : ± 0.10

rack travel mm : 2.00  
Rated speed rpm : 415  
Tolerance 1/min : ± 20

Rated speed rpm : 200

CRT mm min. : > 7.60

---

TORQUE CONTROL

Rated speed rpm : 1050  
rack travel mm : 13.00  
Tolerance mm : ± 0.05

Rated speed rpm : 550  
rack travel mm : 13.00  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 400  
Pressure hPa : 800  
rack travel mm : 13.00  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 400  
rack travel mm : 10.90  
Tolerance mm : ± 0.15

Rated speed rpm : 400

Pressure hPa : 200  
rack travel mm : 11.40  
Tolerance mm : ± 0.20

Pressure hPa : 350  
rack travel mm : 12.25  
Tolerance mm : ± 0.20

---

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 220

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 240

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 800  
Rated speed rpm : 550  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 189.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 132.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

BREAKAWAY

Rack travel in mm : 12.00  
Rated speed rpm : 1098  
Tolerance 1/min : ± 8

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 210.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 19.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 5.80  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 19.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 17.01.96  
Test oil : ISO 4113  
  
Combination No. : D 402 646 785  
  
Injection pump  
Pump designation : PE6P120A320LS7869  
EP type number : D 412 626 887  
  
Governor  
Governor design. : RQV300...1050PA1078K  
Governor no. : D 421 815 359  
  
Cust. part No. : 9275445

Customer-spec. information  
Customer : LIEBHERR  
Motor : D 9406 TI  
Power KW : 300.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 1 417 413 025  
  
Inlet press. bar : 1.5  
Tolerance bar : ± 0.1  
  
Overflow quantity  
min. l/h : 165  
Tolerance l/h : ± 20.0  
  
Test nozzle holde  
assembly : 1 688 901 105  
  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test Lines : 1 680 750 075  
Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 3.65  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
  
Firing order : 1- 6- 3- 5- 2-  
: 4  
  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

BASIC SETTING

Rated speed rpm : 1050  
  
Rack travel in mm : 12.00  
Tolerance mm : ± 0.05  
  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 279.0  
  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000s. : 9.0

Rated speed rpm : 300

Rack travel in mm : 6.10  
Tolerance mm : + 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 50.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000s. : + 6.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000s. : 10.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.69  
Tolerance mm : + 0.25

Rated speed rpm : 1117  
guide sleeve  
travel mm : 10.38  
Tolerance mm : + 0.25

Rated speed rpm : 746  
guide sleeve  
travel mm : 6.20  
Tolerance mm : + 0.25

Rated speed rpm : 353  
guide sleeve  
travel mm : 2.45  
Tolerance mm : + 0.25

Rated speed rpm : 403  
guide sleeve  
travel mm : 3.18  
Tolerance mm : + 0.25

Rated speed rpm : 450  
guide sleeve  
travel mm : 3.66  
Tolerance mm : + 0.25

Rated speed rpm : 1320  
guide sleeve  
travel mm : 13.50  
Tolerance mm : + 0.50

---

GUIDE SLEEVE POSITION

Rated speed rpm : 1185

Rack travel in mm : 10.80  
Tolerance mm : + 1.30

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050  
Aneroid pressure  
hPa : 1550

Del. quantity  
cm<sup>3</sup>/1000 strokes : 279.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000s. : + 4.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000s. : 9.0

---

CONTROL LEVER

control lever  
position degree : 121.0  
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 11.00  
Rated speed rpm : 1105  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1185  
Tolerance 1/min : + 15

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1300

---

LOW IDLE

control lever  
position degree : 74.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 6.10  
Tolerance mm : ± 0.10

Rated speed rpm : 200

CRT mm min. : > 8.00

Rated speed rpm : 400

---

TORQUE CONTROL

Rated speed rpm : 1050  
rack travel mm : 12.00  
Tolerance mm : ± 0.05

Rated speed rpm : 800  
rack travel mm : 11.65  
Tolerance mm : ± 0.10

Rated speed rpm : 500  
rack travel mm : 9.75  
Tolerance mm : ± 0.10

Rated speed rpm : 950  
rack travel mm : 11.85  
Tolerance mm : ± 0.10

Rated speed rpm : 600  
rack travel mm : 10.25  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 1050  
Pressure hPa : 1550  
rack travel mm : 12.00  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1050  
rack travel mm : 9.35  
Tolerance mm : ± 0.10

Rated speed rpm : 1050

H01

Pressure hPa : 725  
rack travel mm : 10.70  
Tolerance mm : ± 0.05

Pressure hPa : 525  
rack travel mm : 9.50  
Tolerance mm : ± 0.10

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1550  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 295.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Aneroid pressure  
hPa : 1550  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 270.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 550  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 250.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

BREAKAWAY

Rack travel in mm : 11.00  
Rated speed rpm : 1105  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 9.55  
Tolerance mm :  $\pm$  0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 170.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  10.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  14.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 6.10  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 50.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 17.01.96  
Test oil : ISO 4113  
  
Combination No. : 0 402 646 969  
  
Injection pump  
Pump designation : PE6P120A32ORS7248  
                  : -10Z  
EP type number : 0 412 626 901  
  
Governor  
Governor design. : RQV275...1150PA986  
Governor no. : 0 421 813 920  
  
Cust. part No. : 1248041/4

Customer-spec. information  
Customer : DAF  
Motor : RS 200 L  
Power kW : 200.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 1 417 413 025  
  
Inlet press. bar : 1.5  
Tolerance bar : ± 0.1  
  
Overflow quantity  
min. L/h : 130  
Tolerance L/h : ± 10.0  
  
Test nozzle holde  
assembly : 1 688 901 105  
  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

H03

Test lines : 1 680 750 089  
Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 5.25  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
  
Rack travel in mm : 11.50  
Tolerance mm : ± 0.50  
  
Firing order : 1- 5- 3- 6- 2-  
                  : 4  
  
Phasing : 0-60-120-180-240  
          : -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50  
  
Start of delivery mark  
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1000  
  
Rack travel in mm : 11.70  
Tolerance mm : ± 0.05  
  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 167.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

---

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 275

Rack travel in mm : 5.40  
Tolerance mm : +- 0.10

Del. quantity  
cm<sup>3</sup>/1000 strokes : 16.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

Rated speed rpm : 1335

Rack travel in mm : 10.30  
Tolerance mm : +- 1.30

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
Aneroid pressure  
hPa : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 167.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

CONTROL LEVER

control lever  
position degree : 120.0  
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 10.70  
Rated speed rpm : 1182  
Tolerance 1/min : +- 5

rack travel mm : 4.00  
Rated speed rpm : 1290  
Tolerance 1/min : +- 15

rack travel mm : 0.70  
Tolerance mm : +- 0.70  
Rated speed rpm : 1450

---

LOW IDLE

control lever  
position degree : 83.0  
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 275  
rack travel mm : 4.70  
Tolerance mm : +- 0.10

Rated speed rpm : 175

CRT mm min. : > 7.50

Rated speed rpm : 340

---

TORQUE CONTROL

Rated speed rpm : 1000  
rack travel mm : 11.70  
Tolerance mm : +- 0.05

Rated speed rpm : 1150  
rack travel mm : 11.70  
Tolerance mm : +- 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING



Rated speed rpm : 600  
Pressure hPa : 1000  
rack travel mm : 11.70  
Tolerance mm : +- 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 600  
rack travel mm : 9.20  
Tolerance mm : +- 0.15

Rated speed rpm : 600

Pressure hPa : 340  
rack travel mm : 10.75  
Tolerance mm : +- 0.05

Pressure hPa : 200  
rack travel mm : 9.70  
Tolerance mm : +- 0.10

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 117.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

---

#### BREAKAWAY

Rack travel in mm : 10.70  
Rated speed rpm : 1182  
Tolerance 1/min : +- 5

---

#### LOW IDLE

Rated speed rpm : 275  
rack travel mm : 5.40  
Tolerance mm : +- 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 16.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0

H05

Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 17.01.96  
Test oil : ISO 4113  
  
Combination No. : 0 402 648 792  
  
Injection pump  
Pump designation : PE8P120A320LS7840  
: -10  
EP type number : 0 412 628 856  
  
Governor  
Governor design. : RQ300/1050PA1276  
Governor no. : 0 421 801 806  
  
Dist. part No. : 0270740302

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM442A  
Power KW : 250.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 1 417 413 025  
  
Inlet press. bar : 1.5  
Tolerance bar : ± 0.1  
  
Test nozzle holde  
assembly : 1 688 901 105  
  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
  
Test lines : 1 680 750 075

Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 5.25  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 20.50  
Tolerance mm : ± 0.50

Firing order : 8- 7- 2- 6- 3  
: - 5- 4- 1

Phasing : 0-45-90-135-180  
: -225-270-315  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 13.45  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 212.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  


---

 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0  


---

 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0  
 Rated speed rpm : 300  
 Rack travel in mm : 6.50  
 Tolerance mm : + 0.30  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 13.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 6.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.86  
 Tolerance mm : + 0.20  
  
 Rated speed rpm : 1103  
 guide sleeve  
 travel mm : 6.71  
 Tolerance mm : + 0.15  
  
 Rated speed rpm : 1050  
 guide sleeve  
 travel mm : 6.35  
 Tolerance mm : + 0.10  
  
 Rated speed rpm : 831  
 guide sleeve  
 travel mm : 6.09  
 Tolerance mm : + 0.10  
  
 Rated speed rpm : 447  
 guide sleeve  
 travel mm : 4.72  
 Tolerance mm : + 0.10  
  
 Rated speed rpm : 540

guide sleeve  
 travel mm : 6.00  
 Tolerance mm : + 0.10  
  
 Rated speed rpm : 1270  
 guide sleeve  
 travel mm : 11.50  
 Tolerance mm : + 0.50  
  
 Rated speed rpm : 892  
 guide sleeve  
 travel mm : 6.26  
 Tolerance mm : + 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 650  
  
 Rack travel in mm : 20.00  
 Tolerance mm : + 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
 Aneroid pressure  
 hPa : 750  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 212.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 6.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

CONTROL LEVER

control lever  
 position degree : 95.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 11.80  
 Rated speed rpm : 1098  
 Tolerance 1/min : + 8  
  
 rack travel mm : 4.00  
 Rated speed rpm : 1175  
 Tolerance 1/min : + 15  
  
 rack travel mm : 0.50  
 Tolerance mm : + 0.50

Rated speed rpm : 1300

---

LOW IDLE

control lever  
position degree : 71.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 5.00  
Tolerance mm : ± 0.10

rack travel mm : 2.00  
Rated speed rpm : 400  
Tolerance 1/min : ± 20

Rated speed rpm : 200

CRT mm min. : > 6.60

---

TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 13.45  
Tolerance mm : ± 0.05

Rated speed rpm : 1050  
rack travel mm : 12.80  
Tolerance mm : ± 0.10

Rated speed rpm : 900  
rack travel mm : 13.15  
Tolerance mm : ± 0.15

Rated speed rpm : 800  
rack travel mm : 13.45  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 400  
Pressure hPa : 750  
rack travel mm : 13.45  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 400

H08

rack travel mm : 11.25  
Tolerance mm : ± 0.15

Rated speed rpm : 400

Pressure hPa : 200  
rack travel mm : 11.60  
Tolerance mm : ± 0.20

Pressure hPa : 400  
rack travel mm : 12.40  
Tolerance mm : ± 0.20

---

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 220

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 240

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 750  
Rated speed rpm : 1050  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 194.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 137.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 11.80  
Rated speed rpm : 1098  
Tolerance 1/min : ± 8

---

STARTING FUEL DELIVERY

Rated speed rpm : 100

Del. quantity  
cm<sup>3</sup>/1000 strokes : 200.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 14.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 6.50  
Tolerance mm : +- 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 17.01.96  
Test oil : ISO 4113  
  
Combination No. : 0 402 648 794  
  
Injection pump  
Pump designation : PE8P120A320LS7890  
EP type number : 0 412 628 913  
  
Governor  
Governor design. : RQV350...900PA1266  
Governor no. : 0 421 814 171

Cust. part No. : 0260740502

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM442 LA  
Power KW : 327.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 1 417 413 047  
  
Inlet press. bar : 1.5  
Tolerance bar : ± 0.1  
  
Overflow quantity  
min. l/h : 100  
Tolerance l/h : ± 20.0  
  
Test nozzle holde  
assembly : 1 688 901 105  
  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 075  
Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 5.25  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
  
Rack travel in mm : 20.50  
Tolerance mm : ± 0.50  
  
Firing order : 8- 7- 2- 6- 3  
                  : - 5- 4- 1  
  
Phasing : 0-45-90-135-180  
          : -225-270-315  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 8

BASIC SETTING

Rated speed rpm : 600  
  
Rack travel in mm : 12.20  
Rack travel in mm : 12.20  
Tolerance mm : ± 0.10  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 259.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 350

Rack travel in mm : 4.00  
Tolerance mm : + 0.30

Del. quantity  
cm<sup>3</sup>/1000 strokes : 14.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 350  
guide sleeve  
travel mm : 1.69  
Tolerance mm : + 0.20

Rated speed rpm : 958  
guide sleeve  
travel mm : 7.30  
Tolerance mm : + 0.15

Rated speed rpm : 770  
guide sleeve  
travel mm : 4.89  
Tolerance mm : + 0.25

Rated speed rpm : 520  
guide sleeve  
travel mm : 3.23  
Tolerance mm : + 0.25

Rated speed rpm : 1073

guide sleeve  
travel mm : 10.00  
Tolerance mm : + 0.25

Rated speed rpm : 1160  
guide sleeve  
travel mm : 11.50  
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1032

Rack travel in mm : 13.50  
Tolerance mm : + 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600  
Aneroid pressure  
hPa : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 259.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

CONTROL LEVER

control lever  
position degree : 118.0  
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 13.50  
Rated speed rpm : 945  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1025  
Tolerance 1/min : + 15

rack travel mm : 0.75  
Tolerance mm : + 0.75  
Rated speed rpm : 1200

LOW IDLE

control lever  
position degree : 65.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 350  
rack travel mm : 4.00  
Tolerance mm : ± 0.10

Rated speed rpm : 250

CRT mm min. : > 6.00

Rated speed rpm : 350

---

TORQUE CONTROL

Rated speed rpm : 600  
rack travel mm : 12.20  
Tolerance mm : ± 0.05

Rated speed rpm : 880  
rack travel mm : 14.50  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

MEASUREMENT

Pressure hPa : 225  
rack travel mm : -2.20  
Tolerance mm : ± 0.05

Pressure hPa : 350  
rack travel mm : -0.90  
Tolerance mm : ± 0.10

Pressure hPa : 850  
rack travel mm : 0.90  
Tolerance mm : ± 0.05

Pressure hPa : 1050  
rack travel mm : 2.10  
Tolerance mm : ± 0.10

---

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 270

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 290

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1300  
Rated speed rpm : 880  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 282.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 191.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 13.50  
Rated speed rpm : 945  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 270.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 24.0

---

LOW IDLE

Rated speed rpm : 350  
rack travel mm : 4.00  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 14.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0



Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 17.01.96  
Test oil : ISO 4113

Combination No. : 0 402 746 954

Injection pump  
Pump designation : PES6P120A720RS7301  
EP type number : 0 412 726 900

Governor  
Governor design. : RQV300...1050PA1090K  
Governor no. : 0 421 815 362

Cust. part No. : 9275449

---

Customer-spec. information  
Customer : LIEBHERR  
Motor : D 926 TI  
Power KW : 230.0

---

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 1.5  
Tolerance bar : ± 0.1

Tolerance l/h : ± 20.0

Test nozzle holde  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0

x length mm : 1000

---

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.75  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

---

BASIC SETTING

Rated speed rpm : 1050

---

Rack travel in mm : 14.35  
Tolerance mm : ± 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 240.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 350

Rack travel in mm : 6.10  
Tolerance mm : + 0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 25.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.69  
Tolerance mm : + 0.15

Rated speed rpm : 1117  
guide sleeve  
travel mm : 10.38  
Tolerance mm : + 0.20

Rated speed rpm : 746  
guide sleeve  
travel mm : 6.20  
Tolerance mm : + 0.25

Rated speed rpm : 353  
guide sleeve  
travel mm : 2.45  
Tolerance mm : + 0.25

Rated speed rpm : 403  
guide sleeve  
travel mm : 3.18  
Tolerance mm : + 0.25

Rated speed rpm : 450  
guide sleeve  
travel mm : 3.66  
Tolerance mm : + 0.25

Rated speed rpm : 1320  
guide sleeve  
travel mm : 13.50  
Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1170

Rack travel in mm : 13.00  
Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1050  
Aneroid pressure  
hPa : 1600

Del. quantity  
cm<sup>3</sup>/1000 strokes : 240.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

CONTROL LEVER

control lever  
position degree : 121.0  
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 13.35  
Rated speed rpm : 1080  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1180  
Tolerance 1/min : + 15

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1300

LOW IDLE

control lever  
position degree : 79.0

tolerance degree : +- 4.0

Testing:

Rated speed rpm : 350  
rack travel mm : 6.10  
Tolerance mm : +- 0.10

Rated speed rpm : 250

CRT mm min. : > 9.10

Rated speed rpm : 475

---

TORQUE CONTROL

Rated speed rpm : 1050  
rack travel mm : 14.35  
Tolerance mm : +- 0.05

Rated speed rpm : 950  
rack travel mm : 13.85  
Tolerance mm : +- 0.10

Rated speed rpm : 900  
rack travel mm : 13.70  
Tolerance mm : +- 0.10

Rated speed rpm : 800  
rack travel mm : 13.35  
Tolerance mm : +- 0.10

Rated speed rpm : 600  
rack travel mm : 12.85  
Tolerance mm : +- 0.10

Rated speed rpm : 500  
rack travel mm : 12.85  
Tolerance mm : +- 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 1050  
Pressure hPa : 1600  
rack travel mm : 14.35  
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1050  
rack travel mm : 11.90  
Tolerance mm : +- 0.10

Rated speed rpm : 1050

Pressure hPa : 800  
rack travel mm : 13.75  
Tolerance mm : +- 0.05

Pressure hPa : 650  
rack travel mm : 12.95  
Tolerance mm : +- 0.10

---

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 270

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 290

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1600  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 219.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0

Aneroid pressure  
hPa : 1600  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 199.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 185.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

BREAKAWAY

Rack travel in mm : 13.35  
Rated speed rpm : 1080  
Tolerance 1/min :  $\pm$  5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 12.85  
Tolerance mm :  $\pm$  0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 155.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  10.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  14.0

---

LOW IDLE

Rated speed rpm : 350  
rack travel mm : 6.10  
Tolerance mm :  $\pm$  0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 25.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 10.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 17.01.96  
Test oil : ISO 4113  
  
Combination No. : 0 402 846 067  
  
Injection pump  
Pump designation : PE6P120A320RS8015  
EP type number : 0 412 826 016  
  
Governor  
Governor design. : RQV300...1050PA1225  
Governor no. : 0 421 814 151

Cust. part No. : 11031773  
: -P02 v.11/95

Customer-spec. information  
Customer : VME  
Motor : TD122KAE  
Power KW : 243.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0  
  
Overflow valve : 2 417 413 078  
  
Inlet press. bar : 2.5  
Tolerance bar : + 0.1  
  
Test nozzle holde  
assembly : 1 688 901 103  
  
Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5  
  
Test lines : 1 680 750 008

Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0  
  
Prestroke mm : 4.00  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10  
  
Rack travel in mm : 11.00  
Tolerance mm : + 0.50  
  
Firing order : 1- 5- 3- 6- 2-  
: 4  
  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75  
  
Start of delivery mark  
  
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700  
  
Rack travel in mm : 9.30  
Tolerance mm : + 0.05  
  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 236.0  
  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0

---

Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0

---

Check tolerance  
 cm<sup>3</sup>/1000S. : 11.0

Rated speed rpm : 325

Rack travel in mm : 3.80  
 Tolerance mm : + 0.30

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 23.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
 cm<sup>3</sup>/1000S. : + 6.0

Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 325  
 guide sleeve  
 travel mm : 2.09  
 Tolerance mm : + 0.25

Rated speed rpm : 1095  
 guide sleeve  
 travel mm : 7.90  
 Tolerance mm : + 0.25

Rated speed rpm : 1028  
 guide sleeve  
 travel mm : 6.85  
 Tolerance mm : + 0.25

Rated speed rpm : 387  
 guide sleeve  
 travel mm : 2.96  
 Tolerance mm : + 0.25

Rated speed rpm : 437  
 guide sleeve  
 travel mm : 3.59  
 Tolerance mm : + 0.25

Rated speed rpm : 520

guide sleeve  
 travel mm : 4.67  
 Tolerance mm : + 0.25

Rated speed rpm : 1310  
 guide sleeve  
 travel mm : 11.50  
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1190

Rack travel in mm : 9.50  
 Tolerance mm : + 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
 Aneroid pressure  
 hPa : 1500  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 236.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 11.0

CONTROL LEVER

control lever  
 position degree : 61.0  
 tolerance degree : + 4.0

control lever  
 position degree : 125.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 8.30  
 Rated speed rpm : 1105  
 Tolerance 1/min : + 5

rack travel mm : 4.00  
 Rated speed rpm : 1165  
 Tolerance 1/min : + 15

rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1250

---

LOW IDLE

control lever  
position degree : 74.0  
tolerance degree : ± 4.0

control lever  
position degree : 10.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 325  
rack travel mm : 3.80  
Tolerance mm : ± 0.30

Rated speed rpm : 225  
CRT mm min. : > 5.40

Rated speed rpm : 375

---

TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 9.30  
Tolerance mm : ± 0.05

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 9.30  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 7.80  
Tolerance mm : ± 0.10

Rated speed rpm : 500

Pressure hPa : 520  
rack travel mm : 1.30  
Tolerance mm : ± 0.20

Pressure hPa : 290  
rack travel mm : 0.25

H2O

Tolerance mm : ± 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 188.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 8.30  
Rated speed rpm : 1105  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : ± 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 150.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 15.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 19.0

---

LOW IDLE

Rated speed rpm : 325  
rack travel mm : 3.80  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 23.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0



---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 17.01.96  
Test oil : ISO 4113

Combination No. : 0 402 846 070

Injection pump  
Pump designation : PE6P120A320RS8040  
EP type number : 0 412 826 034

Governor  
Governor design. : RQV300...1050PA1247  
Governor no. : 0 421 814 163

Cust. part No. : 11031221-P03v.01.96

Customer-spec. information  
Customer : VME  
Motor : TD 103 KCE  
Power KW : 186.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5  
Tolerance bar : ± 0.1

Overflow quantity  
min. L/h : 165  
Tolerance L/h : ± 10.0

Test nozzle holde  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 008  
Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.00  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 12.00  
Tolerance mm : ± 1.00

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 500

Rack travel in mm : 11.80  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 318.0

<hr/>	
Tolerance	
cm <sup>3</sup> /1000 strokes	: ± 1.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: ± 4.0
<hr/>	
Spread	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 8.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: 11.0
<hr/>	
Rated speed rpm	: 320
<hr/>	
Rack travel in mm	: 5.20
Tolerance mm	: ± 0.30
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 50.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: ± 2.5
Check tolerance	
cm <sup>3</sup> /1000S.	: ± 5.0
Spread	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 5.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 320
guide sleeve	
travel mm	: 1.34
Tolerance mm	: ± 0.20
<hr/>	
Rated speed rpm	: 1112
guide sleeve	
travel mm	: 7.91
Tolerance mm	: ± 0.15
<hr/>	
Rated speed rpm	: 806
guide sleeve	
travel mm	: 5.20
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 530
guide sleeve	
travel mm	: 3.11
Tolerance mm	: ± 0.25
<hr/>	
Rated speed rpm	: 1400
guide sleeve	
travel mm	: 11.50

H23

Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm	: 1220
<hr/>	
Rack travel in mm	: 11.00
Tolerance mm	: ± 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 500
Aneroid pressure	
hPa	: 1500
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 318.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: ± 1.0
Check tolerance	
cm <sup>3</sup> /1000S.	: ± 4.0
Spread	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 11.0

CONTROL LEVER

control lever	
position degree	: 45.0
tolerance degree	: ± 4.0
<hr/>	
control lever	
position degree	: 112.0
tolerance degree	: ± 4.0

RATED SPEED

rack travel mm	: 9.60
Rated speed rpm	: 1090
Tolerance 1/min	: ± 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1170
Tolerance 1/min	: ± 15
<hr/>	
rack travel mm	: 0.50
Tolerance mm	: ± 0.50
Rated speed rpm	: 1250

LOW IDLE

control lever  
position degree : 84.0  
tolerance degree : + 4.0

control lever  
position degree : 17.0  
tolerance degree : + 4.0

#### Testing:

Rated speed rpm : 320  
rack travel mm : 5.20  
Tolerance mm : + 0.10

Rated speed rpm : 220

CRT mm min. : > 7.80

Rated speed rpm : 380

---

#### TORQUE CONTROL

Rated speed rpm : 500  
rack travel mm : 11.80  
Tolerance mm : + 0.05

Rated speed rpm : 1050  
rack travel mm : 10.60  
Tolerance mm : + 0.10

Rated speed rpm : 720  
rack travel mm : 10.90  
Tolerance mm : + 0.15

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 11.80  
Tolerance mm : + 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 8.70  
Tolerance mm : + 0.10

Rated speed rpm : 500

Pressure hPa : 900  
rack travel mm : 2.80  
Tolerance mm : + 0.20

H24

Pressure hPa : 230  
rack travel mm : 0.25  
Tolerance mm : + 0.05

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 1050  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 218.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 212.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

---

#### BREAKAWAY

Rack travel in mm : 9.60  
Rated speed rpm : 1090  
Tolerance 1/min : + 5

---

#### LOW IDLE

Rated speed rpm : 320  
rack travel mm : 5.20  
Tolerance mm : + 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 50.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 5.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 17.01.96  
Test oil : ISO 4113  
  
Combination No. : 0 402 846 071  
  
Injection pump  
Pump designation : PE6P120A320RS8040  
EP type number : 0 412 862 034  
  
Governor  
Governor design. : RQV300...1100PA1248  
Governor no. : 0 421 814 165  
  
Cust. part No. : 11031229  
                  : -P03 v.12.95

Customer-spec. information  
Customer : VME  
Motor : TD 103 KBE  
Power KW : 214.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0  
  
Overflow valve : 2 417 413 078  
  
Inlet press. bar : 2.5  
Tolerance bar : + 0.1  
  
Test nozzle holde  
assembly : 1 688 901 103  
  
Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5  
  
Test Lines : 1 680 750 008

Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0  
  
Prestroke mm : 4.00  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10  
  
Rack travel in mm : 12.00  
Tolerance mm : + 1.00  
  
Firing order : 1- 5- 3- 6- 2-  
                  : 4  
  
Phasing : 0-60-120-180-240  
          : -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.75  
  
Start of delivery mark  
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700  
  
Rack travel in mm : 11.00  
Tolerance mm : + 0.05  
  
Del. quantity  
cm3/1000 strokes : 270.0  
  
Tolerance  
cm3/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 11.0

Rated speed rpm : 330

Rack travel in mm : 4.20  
Tolerance mm : ± 0.30

Del. quantity  
cm<sup>3</sup>/1000 strokes : 29.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.5

Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE TRAVEL

Rated speed rpm : 330  
guide sleeve  
travel mm : 2.10  
Tolerance mm : ± 0.20

Rated speed rpm : 1130  
guide sleeve  
travel mm : 7.55  
Tolerance mm : ± 0.15

Rated speed rpm : 1077  
guide sleeve  
travel mm : 6.76  
Tolerance mm : ± 0.25

Rated speed rpm : 520  
guide sleeve  
travel mm : 4.67  
Tolerance mm : ± 0.25

Rated speed rpm : 1370  
guide sleeve  
travel mm : 11.50  
Tolerance mm : ± 0.50

---

GUIDE SLEEVE POSITION

H27

Rated speed rpm : 1240

Rack travel in mm : 11.00  
Tolerance mm : ± 1.50

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700

Aneroid pressure  
hPa : 1500

Del. quantity  
cm<sup>3</sup>/1000 strokes : 270.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 11.0

---

CONTROL LEVER

control lever  
position degree : 56.0  
tolerance degree : ± 4.0

control lever  
position degree : 117.0  
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 10.00  
Rated speed rpm : 1130  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1200  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1275

---

LOW IDLE

control lever  
position degree : 66.0  
tolerance degree : ± 4.0

control lever  
position degree : 11.0  
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 330  
rack travel mm : 4.20  
Tolerance mm : +- 0.10

Rated speed rpm : 230

CRT mm min. : > 6.00

Rated speed rpm : 400

---

TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 11.00  
Tolerance mm : +- 0.05

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 11.00  
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 8.60  
Tolerance mm : +- 0.10

Rated speed rpm : 500

Pressure hPa : 540  
rack travel mm : 2.00  
Tolerance mm : +- 0.20

Pressure hPa : 240  
rack travel mm : 0.25  
Tolerance mm : +- 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -

H28

Rated speed rpm : 700  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 202.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

---

BREAKAWAY

Rack travel in mm : 10.00  
Rated speed rpm : 1130  
Tolerance 1/min : +- 5

---

LOW IDLE

Rated speed rpm : 330  
rack travel mm : 4.20  
Tolerance mm : +- 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 29.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 17.01.96  
Test oil : ISO 4113  
  
Combination No. : 0 402 846 300  
  
Injection pump  
Pump designation : PE6P120A32ORS8504  
EP type number : 0 412 816 200  
  
Governor  
Governor design. : RQV275...1000PA1099K  
Governor no. : 0 421 815 983  
  
Cust. part No. : 1287579/4

Customer-spec. information

Customer : DAF  
Motor : WS 315 M  
Power KW : 315.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2  
  
Test oil inlet temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 1 417 413 025  
  
Inlet press. bar : 1.5  
Tolerance bar : ± 0.1  
  
Overflow quantity min. l/h : 180  
  
Test nozzle holde assembly : 1 688 901 105  
  
Opening pressure bar : 208.5  
Tolerance bar : ± 1.5

Test Lines : 1 680 750 089  
Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 5.35  
Tolerance mm : ± 0.05  
Check tolerance mm : ± 0.10  
  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
  
Firing order : 1- 5- 3- 6- 2-  
: 4  
  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check tolerance °NW : ± 0.50

Start of delivery mark

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 980  
  
Rack travel in mm : 13.35  
Tolerance mm : ± 0.05  
  
Del. quantity cm<sup>3</sup>/1000 strokes : 321.5

Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0

---

Check tolerance  
 cm<sup>3</sup>/1000S. : + 6.0

---

Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0

---

Check tolerance  
 cm<sup>3</sup>/1000S. : 14.0

Rated speed rpm : 275

Rack travel in mm : 5.80  
 Tolerance mm : + 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 13.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 6.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 14.0

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250  
 guide sleeve  
 travel mm : 1.53  
 Tolerance mm : + 0.15

Rated speed rpm : 1050  
 guide sleeve  
 travel mm : 9.89  
 Tolerance mm : + 0.20

Rated speed rpm : 692  
 guide sleeve  
 travel mm : 6.45  
 Tolerance mm : + 0.25

Rated speed rpm : 284  
 guide sleeve  
 travel mm : 2.27  
 Tolerance mm : + 0.25

Rated speed rpm : 334  
 guide sleeve  
 travel mm : 3.08  
 Tolerance mm : + 0.25

Rated speed rpm : 400  
 guide sleeve  
 travel mm : 3.92  
 Tolerance mm : + 0.25

Rated speed rpm : 1310  
 guide sleeve  
 travel mm : 13.50  
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1130  
 Rack travel in mm : 12.70  
 Tolerance mm : + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 980  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 321.5  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 6.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 8.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 14.0

CONTROL LEVER

control lever  
 position degree : 120.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 12.35  
 Rated speed rpm : 1037  
 Tolerance 1/min : + 5

rack travel mm : 4.00  
 Rated speed rpm : 1150  
 Tolerance 1/min : + 15

rack travel mm : 0.70  
 Tolerance mm : + 0.70  
 Rated speed rpm : 1275

---

LOW IDLE

control lever  
position degree : 76.0  
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 275  
rack travel mm : 5.80  
Tolerance mm : +- 0.10

rack travel mm : 2.00  
Rated speed rpm : 405  
Tolerance 1/min : +- 30

Rated speed rpm : 175

CRT mm min. : > 8.00

---

TORQUE CONTROL

Rated speed rpm : 980  
rack travel mm : 13.35  
Tolerance mm : +- 0.05

Rated speed rpm : 750  
rack travel mm : 12.75  
Tolerance mm : +- 0.05

Rated speed rpm : 600  
rack travel mm : 12.05  
Tolerance mm : +- 0.10

Rated speed rpm : 500  
rack travel mm : 12.00  
Tolerance mm : +- 0.10

Rated speed rpm : 400  
rack travel mm : 11.95  
Tolerance mm : +- 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 980  
Pressure hPa : 1500  
rack travel mm : 13.35  
Tolerance mm : +- 0.05

MEASUREMENT

Pressure hPa : 750  
Rated speed rpm : 980  
rack travel mm : 12.25  
Tolerance mm : +- 0.05

Rated speed rpm : 980

Pressure hPa : -  
rack travel mm : 8.90  
Tolerance mm : +- 0.10

Pressure hPa : 420  
rack travel mm : 10.00  
Tolerance mm : +- 0.10

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 316.0  
Tolerance

cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 8.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 14.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 188.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 6.0

---

BREAKAWAY

Rack travel in mm : 12.35  
Rated speed rpm : 1037  
Tolerance 1/min : +- 5

---

LOW IDLE

Rated speed rpm : 275  
rack travel mm : 5.80  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 13.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  3.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 14.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 17.01.96  
Test oil : ISO 4113  
Combination No. : 0 403 446 231  
Injection pump  
Pump designation : PES6MW100/720RS1144  
EP type number : 0 413 406 138  
Governor  
Governor design. : RQV300...1400MW48-8  
Governor no. : 0 420 083 175

Cust. part No. :

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM 366 A  
Power KW : 125.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet temp. °C : 40  
Tolerance °C : + 2.0  
Overflow valve : 1 417 413 047  
Inlet press. bar : 1.5  
Test nozzle holder assembly : 1 688 901 101  
Opening pressure bar : 208.5  
Tolerance bar : + 1.5  
Test Lines : 1 680 715 015  
Outside diameter : 6.0

J05

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : + 1.0  
Prestroke mm : 3.55  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10  
Rack travel in mm : 10.50  
Tolerance mm : + 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.50  
Check tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1400  
Rack travel in mm : 10.95  
Tolerance mm : + 0.05  
Del. quantity cm<sup>3</sup>/1000 strokes : 75.0  
Tolerance cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance cm<sup>3</sup>/1000S. : + 3.0  
Speed Tolerance cm<sup>3</sup>/1000 strokes : 3.5

---

Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0  
 Rated speed rpm : 300  
 Rack travel in mm : 8.55  
 Tolerance mm : + 0.25  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 11.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 5.5

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

---

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.22  
 Tolerance mm : + 0.20  
 Rated speed rpm : 1453  
 guide sleeve  
 travel mm : 8.30  
 Tolerance mm : + 0.15  
 Rated speed rpm : 594  
 guide sleeve  
 travel mm : 3.30  
 Tolerance mm : + 0.25  
 Rated speed rpm : 400  
 guide sleeve  
 travel mm : 2.30  
 Tolerance mm : + 0.25  
 Rated speed rpm : 1770  
 guide sleeve  
 travel mm : 11.50  
 Tolerance mm : + 0.50

---

GUIDE SLEEVE POSITION

Rated speed rpm : 1500  
 Rack travel in mm : 10.00  
 Tolerance mm : + 2.70

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1400  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 75.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 3.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0

---

CONTROL LEVER

control lever  
 position degree : 111.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 9.90  
 Rated speed rpm : 1445  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1550  
 Tolerance 1/min : + 15  
 rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1650

---

LOW IDLE

control lever  
 position degree : 81.0  
 tolerance degree : + 4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 8.55  
 Tolerance mm : + 0.25  
 Rated speed rpm : 200  
 CRT mm min. : > 9.50

---

TORQUE CONTROL

Rated speed rpm : 1400  
rack travel mm : 10.95  
Tolerance mm : ± 0.05

Rated speed rpm : 750  
rack travel mm : 12.20  
Tolerance mm : ± 0.10

Rated speed rpm : 950  
rack travel mm : 11.95  
Tolerance mm : ± 0.15

Rated speed rpm : 1200  
rack travel mm : 11.15  
Tolerance mm : ± 0.15

---

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 200

Check speed 1/min : > 80  
Check speed 1/min : < 230

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 76.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

---

BREAKAWAY

Rack travel in mm : 9.90  
Rated speed rpm : 1445  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 19.50  
Tolerance mm : ± 1.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 85.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 8.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 8.55  
Tolerance mm : ± 0.25  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 31.01.96  
Test oil : ISO 4113  
  
Combination No. : 0 400 074 090  
  
Injection pump  
Pump designation : PES4M55C320RS175  
EP type number : 0 410 054 957  
  
Governor  
Governor design. : RSV350...1650MOC353  
                  : -13  
Governor no. : 0 420 033 050  
  
Cust. part No. :

---

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM601 (2,3L)  
Power KW : 50.0

---

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : +- 2.0  
  
Overflow valve : 1 469 990 351  
  
Inlet press. bar : 1.0  
  
Test nozzle holde  
assembly : 1 688 901 111  
  
Opening pressure  
bar : 148.5  
Tolerance bar : +- 1.5  
  
Test lines : 1 680 750 014  
  
Outside diameter : 6.0  
  
x inside diameter : 2.0

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : +- 1.0  
  
Prestroke mm : 2.05  
Tolerance mm : +- 0.05  
Check  
tolerance mm : +- 0.10  
  
Rack travel in mm : 21.00  
Tolerance mm : +- 1.00  
  
Firing order : 1- 3- 4- 2  
  
Phasing : 0-90-180-270

---

BASIC SETTING

Rated speed rpm : 1630  
  
Rack travel in mm : 11.85  
Tolerance mm : +- 0.05  
  
Del. quantity  
cm3/1000 strokes : 39.5  
  
Tolerance  
cm3/1000 strokes : +- 0.5  
  
Check tolerance  
cm3/1000S. : +- 1.5  
  
Spreed  
Tolerance  
cm3/1000 strokes : 2.5  
  
Check tolerance  
cm3/1000S. : 3.0  
  
Rated speed rpm : 350  
Del. quantity  
cm3/1000 strokes : 7.0  
Tolerance  
cm3/1000 strokes : +- 1.0



Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 1.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
Rack travel in mm : 0.65  
Tolerance mm : ± 0.35

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1630  
Ref. pressure  
ALDA / ADA hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 39.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 1.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

---

RATED SPEED

control lever  
position degree : 106.0  
rack travel mm : 1.00  
Tolerance mm : ± 0.70  
Rated speed rpm : 2000

---

LOW IDLE

control lever  
position degree : 70.0  
tolerance degree : ± 4.0

SET IDLE AUXILIARY SPRING

Rated speed rpm : 350  
rack travel mm : 5.40  
Tolerance mm : ± 0.10

Load pick-up

Rated speed rpm : 100  
CRT mm min. : > 20.10  
rack travel mm : 5.40  
Rated speed rpm : 350

SET IDLE AUXILIARY SPRING

Rated speed rpm : 100

---

TORQUE CONTROL

Rated speed rpm : 1630  
rack travel mm : 11.85  
Tolerance mm : ± 0.05  
Rated speed rpm : 1000  
rack travel mm : 11.80  
Tolerance mm : ± 0.10

---

FUEL DELIVERY CHARACTERISTICS

Ref. pressure  
ALDA / ADA hPa : -  
Rated speed rpm : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 38.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 2.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 3.0

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 54.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

---

LOW IDLE

Rated speed rpm : 350  
rack travel mm : 5.60  
Tolerance mm :  $\pm$  0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 7.8  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  2.3  
Spreed  
Check tolerance  
cm<sup>3</sup>/1000S. : 1.5

---

SETTING PNEUMATIC FAST IDLE (ELA)

control lever  
position degree : 70.0  
tolerance degree :  $\pm$  4.0

---

SETTING/TESTING ELECTRONIC IDLE  
REGULATION (ELR)

control lever  
position degree : 70.0  
tolerance degree :  $\pm$  4.0

control lever  
position degree : 106.0

---

ADJUSTMENT

control lever  
position degree : 106.0

---

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 31.01.96  
Test oil : ISO 4113  
Combination No. : 0 401 846 958  
Injection pump  
Pump designation : PE6P120A720RS3291  
EP type number : 0 411 826 800  
Governor  
Governor design. : RQV300...1000PA1016  
Governor no. : 0 421 813 964

Cust. part No. :

Customer-spec. information  
Customer : IVECO-UNIC  
Motor : 8210.22.521

TEST BENCH REQUIREMENTS

Inlet line : 4.2  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 417 413 025  
Inlet press. bar : 1.5  
Tolerance bar : ± 0.1  
Test nozzle holde  
assembly : 1 688 901 019  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 075  
Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
Prestroke mm : 3.55  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50

BASIC SETTING

Rated speed rpm : 1000  
Rack travel in mm : 11.05  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 226.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 300

Rack travel in mm : > 4.00  
Tolerance mm : + 0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 22.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.34  
Tolerance mm : + 0.20

Rated speed rpm : 1059  
guide sleeve  
travel mm : 8.50  
Tolerance mm : + 0.15

Rated speed rpm : 712  
guide sleeve  
travel mm : 5.48  
Tolerance mm : + 0.25

Rated speed rpm : 440  
guide sleeve  
travel mm : 3.44  
Tolerance mm : + 0.25

Rated speed rpm : 1270  
guide sleeve  
travel mm : 11.50  
Tolerance mm : + 0.50

---

GUIDE SLEEVE POSITION

Rated speed rpm : 1130

Rack travel in mm : 11.00  
Tolerance mm : + 2.70

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1000  
Aneroid pressure  
hPa : 700

Del. quantity  
cm<sup>3</sup>/1000 strokes : 226.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

CONTROL LEVER

control lever  
position degree : 116.0  
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.00  
Rated speed rpm : 1045  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1140  
Tolerance 1/min : + 15

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1250

---

LOW IDLE

control lever  
position degree : 65.0  
tolerance degree : + 4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 4.00  
Tolerance mm : + 0.10

Rated speed rpm : 100

CRT mm min. : > 6.00

Rated speed rpm : 360

---

TORQUE CONTROL

Rated speed rpm : 1000  
rack travel mm : 11.05  
Tolerance mm : ± 0.05

Rated speed rpm : 500  
rack travel mm : 11.10  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 700  
rack travel mm : 11.05  
Tolerance mm : ± 0.05

MEASUREMENT

Rated speed rpm : 500  
  
Pressure hPa : 180  
rack travel mm : 9.35  
Tolerance mm : ± 0.15  
  
Pressure hPa : 220  
rack travel mm : 10.35  
Tolerance mm : ± 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 700  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 226.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 156.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 10.00  
Rated speed rpm : 1045  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 250.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 14.0

---

LOW IDLE

Rated speed rpm : 300  
rack travel mm : > 4.00  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 22.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 31.01.96  
Test oil : ISO 4113

Combination No. : 0 401 876 747

Injection pump  
Pump designation : PE6P110A32ORS3162  
EP type number : 0 411 816 748

Governor  
Governor design. : RSV200...900P1/421  
Governor no. : 0 421 833 132

Cust. part No. : 849194 P03 v. 6/95

Customer-spec. information  
Customer : VOLVO-PENTA  
Motor : TMD 100 C  
Power KW : 177.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2

Vibration damper  
(RoBo diaphragm) : 4.1

Test oil inlet temp. °C : 40  
Tolerance °C : + 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5

Test nozzle holder assembly : 0 681 343 009

Opening pressure bar : 173.5  
Tolerance bar : + 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.55  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check tolerance °NW : + 0.50

Start of delivery mark

Tolerance : + 0.50  
Check tolerance °NW : + 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm : 12.25  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 154.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

---

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

---

Rated speed rpm : 250

Rack travel in mm : 6.70  
Tolerance mm : +- 0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.5

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : +- 0.20

governor spring  
pre-tension  
click setting x : 4.00

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 154.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

---

CONTROL LEVER

control lever  
position degree : 96.0  
tolerance degree : +- 4.0

control lever  
position degree : 46.0  
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 11.20  
Rated speed rpm : 945  
Tolerance 1/min : +- 5

rack travel mm : 4.00  
Rated speed rpm : 985  
Tolerance 1/min : +- 15

rack travel mm : 0.85  
Tolerance mm : +- 0.55  
Rated speed rpm : 1140

---

LOW IDLE

control lever  
position degree : 19.0  
tolerance degree : +- 4.0

control lever  
position degree : 69.0  
tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 250  
rack travel mm : 6.20

Testing:

Rated speed rpm : 250  
rack travel mm : 6.70  
Tolerance mm : +- 0.10

rack travel mm : 2.00  
Rated speed rpm : 360

Tolerance 1/min :  $\pm$  30

End of test specification sheet

---

TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 12.25  
Tolerance mm :  $\pm$  0.05

---

BREAKAWAY

Rack travel in mm : 11.20  
Rated speed rpm : 945  
Tolerance 1/min :  $\pm$  5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm :  $\pm$  0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 150.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  10.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  10.0

---

LOW IDLE

Rated speed rpm : 250  
rack travel mm : 6.70  
Tolerance mm :  $\pm$  0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 20.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

---



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 29.01.96  
Test oil : ISO 4113  
  
Combination No. : 0 401 876 811  
  
Injection pump  
Pump designation : PE6P120A32ORS3313  
EP type number : 0 411 826 807  
  
Governor  
Governor design. : RSV350...1050P8A558  
: -4  
Governor no. : 0 421 833 516  
  
Cust. part No. : 1379584

Customer-spec. information  
Customer : SCANIA  
Motor : DSC943A

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
  
Vibration damper  
(RoBo diaphragm) : 4.2  
  
Test oil inlet temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 1 417 413 025  
  
Inlet press. bar : 2.5  
Tolerance bar : ± 0.1  
  
Test nozzle holder assembly : 1 688 901 104  
  
Opening pressure bar : 251.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 008  
Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 4.45  
Tolerance mm : ± 0.05  
Check tolerance mm : ± 0.10  
  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
  
Firing order : 1- 5- 3- 6- 2-  
: 4  
  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check tolerance °NW : ± 0.50  
  
Start of delivery mark  
Tolerance : ± 0.50  
Check tolerance °NW : ± 0.75  
  
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm	:	12.75
Tolerance mm	:	+ 0.05
<hr/>		
Del. quantity		
cm <sup>3</sup> /1000 strokes	:	174.0
<hr/>		
Tolerance		
cm <sup>3</sup> /1000 strokes	:	+ 1.0
<hr/>		
Check tolerance		
cm <sup>3</sup> /1000S.	:	+ 4.0
<hr/>		
Spreed		
Tolerance		
cm <sup>3</sup> /1000 strokes	:	8.0
<hr/>		
Check tolerance		
cm <sup>3</sup> /1000S.	:	12.0
<hr/>		
Rated speed rpm	:	350
<hr/>		
Rack travel in mm	:	5.10
Tolerance mm	:	+ 0.30
Del. quantity		
cm <sup>3</sup> /1000 strokes	:	18.0
Tolerance		
cm <sup>3</sup> /1000 strokes	:	+ 3.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	+ 6.0
Spreed		
Tolerance		
cm <sup>3</sup> /1000 strokes	:	4.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	8.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm	:	800
<hr/>		
Rack travel in mm	:	0.50
Tolerance mm	:	+ 0.20
<hr/>		
governor spring		
pre-tension		
click setting x	:	6.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	:	700
Aneroid pressure		
hPa	:	-

Del. quantity		
cm <sup>3</sup> /1000 strokes	:	174.0
Tolerance		
cm <sup>3</sup> /1000 strokes	:	+ 1.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	+ 4.0
Spreed		
Tolerance		
cm <sup>3</sup> /1000 strokes	:	8.0
Check tolerance		
cm <sup>3</sup> /1000S.	:	12.0

CONTROL LEVER

control lever		
position degree	:	58.0
tolerance degree	:	+ 4.0

control lever		
position degree	:	108.0
tolerance degree	:	+ 4.0

RATED SPEED

rack travel mm	:	11.00
Rated speed rpm	:	1095
Tolerance 1/min	:	+ 5

rack travel mm	:	4.00
Rated speed rpm	:	1165
Tolerance 1/min	:	+ 15

rack travel mm	:	0.85
Tolerance mm	:	+ 0.55
Rated speed rpm	:	1300

LOW IDLE

control lever		
position degree	:	77.0
tolerance degree	:	+ 4.0

control lever		
position degree	:	28.0
tolerance degree	:	+ 4.0

Setting point w/out bumper spring

Rated speed rpm	:	350
rack travel mm	:	4.60

Testing:

Rated speed rpm	:	350
rack travel mm	:	5.10

Tolerance mm : ± 0.10  
rack travel mm : 2.00  
Rated speed rpm : 550  
Tolerance 1/min : ± 30

---

#### TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 12.75  
Tolerance mm : ± 0.05

Rated speed rpm : 1050  
rack travel mm : 12.75  
Tolerance mm : ± 0.05

Rated speed rpm : 900  
rack travel mm : 13.45  
Tolerance mm : ± 0.10

Rated speed rpm : 975  
rack travel mm : 13.05  
Tolerance mm : ± 0.15

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 12.75  
Tolerance mm : ± 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.50  
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 230  
rack travel mm : 10.95  
Tolerance mm : ± 0.15

Pressure hPa : 310  
rack travel mm : 11.35  
Tolerance mm : ± 0.05

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 1050  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 154.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 114.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

#### BREAKAWAY

Rack travel in mm : 11.00  
Rated speed rpm : 1095  
Tolerance 1/min : ± 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 10.50  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 100.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 24.0

---

#### LOW IDLE

Rated speed rpm : 350  
rack travel mm : 5.10  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 30.01.96  
Test oil : ISO 4113  
  
Combination No. : 0 401 876 812  
  
Injection pump  
Pump designation : PE6P120A32ORS3313  
EP type number : 0 411 826 807  
  
Governor  
Governor design. : RSV350...1050P8A558  
: -5  
Governor no. : 0 421 833 517

Cust. part No. : 1379537

Customer-spec. information  
Customer : SCANIA  
Motor : DSC943A

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Vibration damper (RoBo diaphragm) : 4.2

Test oil inlet temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 025

Inlet press. bar : 2.5  
Tolerance bar : ± 0.1

Test nozzle holder assembly : 1 688 901 104

Opening pressure bar : 251.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 008  
Outside diameter : 6.0  
x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.45  
Tolerance mm : ± 0.05  
Check tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check tolerance °NW : ± 0.50

Start of delivery mark  
Tolerance : ± 0.50  
Check tolerance °NW : ± 0.75

Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700

Rack travel in mm :	13.85
Tolerance mm :	+ 0.05
<hr/>	
Del. quantity cm <sup>3</sup> /1000 strokes :	204.0
<hr/>	
Tolerance cm <sup>3</sup> /1000 strokes :	+ 1.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S. :	+ 4.0
<hr/>	
Spreed Tolerance cm <sup>3</sup> /1000 strokes :	8.0
<hr/>	
Check tolerance cm <sup>3</sup> /1000S. :	12.0
<hr/>	
Rated speed rpm :	350
<hr/>	
Rack travel in mm :	5.10
Tolerance mm :	+ 0.30
Del. quantity cm <sup>3</sup> /1000 strokes :	18.0
Tolerance cm <sup>3</sup> /1000 strokes :	+ 3.0
Check tolerance cm <sup>3</sup> /1000S. :	+ 6.0
Spreed Tolerance cm <sup>3</sup> /1000 strokes :	4.0
Check tolerance cm <sup>3</sup> /1000S. :	8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm :	800
<hr/>	
Rack travel in mm :	0.50
Tolerance mm :	+ 0.20
<hr/>	
governor spring pre-tension click setting x :	6.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm :	700
Aneroid pressure hPa :	-

Del. quantity cm <sup>3</sup> /1000 strokes :	204.0
Tolerance cm <sup>3</sup> /1000 strokes :	+ 1.0
Check tolerance cm <sup>3</sup> /1000S. :	+ 4.0
Spreed Tolerance cm <sup>3</sup> /1000 strokes :	8.0
Check tolerance cm <sup>3</sup> /1000S. :	12.0

CONTROL LEVER

control lever position degree :	62.0
tolerance degree :	+ 4.0
<hr/>	
control lever position degree :	112.0
tolerance degree :	+ 4.0

RATED SPEED

rack travel mm :	11.70
Rated speed rpm :	1095
Tolerance 1/min :	+ 5
<hr/>	
rack travel mm :	4.00
Rated speed rpm :	1175
<hr/>	
rack travel mm :	0.85
Tolerance mm :	+ 0.55
Rated speed rpm :	1300

LOW IDLE

control lever position degree :	77.0
tolerance degree :	+ 4.0
<hr/>	
control lever position degree :	28.0
tolerance degree :	+ 4.0

Setting point w/out bumper spring

Rated speed rpm :	350
rack travel mm :	4.60

Testing:

Rated speed rpm :	350
rack travel mm :	5.10
Tolerance mm :	+ 0.10

---

TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 13.85  
Tolerance mm : ± 0.05

Rated speed rpm : 1050  
rack travel mm : 12.75  
Tolerance mm : ± 0.05

Rated speed rpm : 900  
rack travel mm : 13.45  
Tolerance mm : ± 0.20

Rated speed rpm : 975  
rack travel mm : 13.05  
Tolerance mm : ± 0.25

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 13.85  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.50  
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 230  
rack travel mm : 10.95  
Tolerance mm : ± 0.15

Pressure hPa : 310  
rack travel mm : 11.35  
Tolerance mm : ± 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 1050  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 169.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 114.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 11.70  
Rated speed rpm : 1095  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 10.50  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 100.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 24.0

---

LOW IDLE

Rated speed rpm : 350  
rack travel mm : 5.10  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet





BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 11.07.95  
Test oil : ISO 4113  
Combination No. : 0 402 046 865  
Injection pump  
Pump designation : PES6P120A320LS3321  
: -1  
EP type number : 0 412 026 776  
Governor  
Governor design. : RQ275/950PA1085-1  
Governor no. : 0 421 801 761  
Cust. part No. : 645 625

Customer-spec. information  
Customer : RABA  
Motor : SIEHE BEMERKUNG

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 417 413 025  
Inlet press. bar : 1.5  
Tolerance bar : ± 0.1  
Test nozzle holde  
assembly : 1 688 901 105  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 089  
Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
Prestroke mm : 4.45  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
Rack travel in mm : 12.50  
Tolerance mm : ± 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.50  
Start of delivery mark  
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 600  
Rack travel in mm : 14.60  
Tolerance mm : ± 0.05  
Del. quantity  
cm3/1000 strokes : 193.0  
Tolerance  
cm3/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Rated speed rpm : 275

Rack travel in mm : 5.70  
Tolerance mm : + 0.30

Del. quantity  
cm<sup>3</sup>/1000 strokes : 24.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Spreed  
Tolerance

cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE TRAVEL

Rated speed rpm : 275  
guide sleeve  
travel mm : 2.85  
Tolerance mm : + 0.10

Rated speed rpm : 1003  
guide sleeve  
travel mm : 6.55  
Tolerance mm : + 0.10

Rated speed rpm : 950  
guide sleeve  
travel mm : 6.00  
Tolerance mm : + 0.10

Rated speed rpm : 369  
guide sleeve  
travel mm : 5.24  
Tolerance mm : + 0.10

Rated speed rpm : 440  
guide sleeve  
travel mm : 6.00  
Tolerance mm : + 0.10

Rated speed rpm : 1170

guide sleeve  
travel mm : 11.50  
Tolerance mm : + 0.50

---

GUIDE SLEEVE POSITION

Rated speed rpm : 500

Rack travel in mm : 20.00  
Tolerance mm : + 0.80

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 600  
Aneroid pressure

hPa : 900

Del. quantity  
cm<sup>3</sup>/1000 strokes : 193.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spreed  
Tolerance

cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

CONTROL LEVER

control lever  
position degree : 37.0  
tolerance degree : + 4.0

control lever  
position degree : 99.0  
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 13.60  
Rated speed rpm : 995  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1090  
Tolerance 1/min : + 15

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1200

---

LOW IDLE

control lever  
position degree : 75.0  
tolerance degree : ± 4.0

control lever  
position degree : 13.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 275  
rack travel mm : 5.70  
Tolerance mm : ± 0.10

rack travel mm : 2.00  
Rated speed rpm : 355  
Tolerance 1/min : ± 20

Rated speed rpm : 175

CRT mm min. : > 8.30

---

TORQUE CONTROL

Rated speed rpm : 600  
rack travel mm : 14.60  
Tolerance mm : ± 0.05

Rated speed rpm : 950  
rack travel mm : 14.60  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 900  
rack travel mm : 14.60  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 12.40  
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 240  
rack travel mm : 13.10  
Tolerance mm : ± 0.15

Pressure hPa : 350

rack travel mm : 13.80  
Tolerance mm : ± 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 900  
Rated speed rpm : 950  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 185.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 114.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 13.60  
Rated speed rpm : 995  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 154.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 24.0

---

LOW IDLE

Rated speed rpm : 275  
rack travel mm : 5.70  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 24.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0

Check tolerance  
cm<sup>3</sup>/1000s. : +- 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 12.0

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 29.01.96  
Test oil : ISO 4113

Combination No. : 0 402 640 817

Injection pump  
Pump designation : PE12P120A520LS7826  
EP type number : 0 412 620 817

Governor  
Governor design. : RQV350...1150PA870  
: -4  
Governor no. : 0 421 813 717

Cust. part No. : 0180745402

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM 444 LA  
Power KW : 736.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : +- 2.0

Overflow valve : 2 417 413 077

Inlet press. bar : 1.5

Overflow quantity  
min. l/h : 160  
Tolerance l/h : +- 10.0

Test nozzle holde  
assembly : 1 688 901 105

Opening pressure  
bar : 208.5  
Tolerance bar : +- 1.5

Test lines : 1 680 750 075

Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 1000

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : +- 1.0

Prestroke mm : 4.45  
Tolerance mm : +- 0.05  
Check  
tolerance mm : +- 0.10

Rack travel in mm : 20.00  
Tolerance mm : +- 1.00

Firing order : 12- 1- 5- 9- 8  
: - 3- 4- 11- 10  
: - 2- 6- 7

Phasing : 0-45-60-105-120  
: -165-180-225-240  
: -285-300-345  
Tolerance : +- 0.30  
Check  
tolerance °NW : +- 0.50

Start of delivery mark

Barrel no. : 12

BASIC SETTING

Rated speed rpm : 1150

Rack travel in mm : 15.30  
Tolerance mm : +- 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 306.0

<hr/>	
Tolerance	
cm <sup>3</sup> /1000 strokes	: + 1.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: + 4.0
<hr/>	
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 6.0
<hr/>	
Check tolerance	
cm <sup>3</sup> /1000S.	: 10.0
<hr/>	
Rated speed rpm	: 350
<hr/>	
Rack travel in mm	: 5.60
Tolerance mm	: + 0.30
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 15.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: + 3.0
Check tolerance	
cm <sup>3</sup> /1000S.	: + 6.0
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 8.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 12.0

(B) SETTING OF INJECTION PUMP WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm	: 350
guide sleeve	
travel mm	: 1.55
Tolerance mm	: + 0.20
<hr/>	
Rated speed rpm	: 1206
guide sleeve	
travel mm	: 8.15
Tolerance mm	: + 0.15
<hr/>	
Rated speed rpm	: 600
guide sleeve	
travel mm	: 3.55
Tolerance mm	: + 0.25
<hr/>	
Rated speed rpm	: 960
guide sleeve	
travel mm	: 5.55
Tolerance mm	: + 0.25
<hr/>	
Rated speed rpm	: 1291
guide sleeve	
travel mm	: 10.05

K02

Tolerance mm : + 0.25

GUIDE SLEEVE POSITION

Rated speed rpm	: 1275
<hr/>	
Rack travel in mm	: 16.50
Tolerance mm	: + 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm	: 1150
Aneroid pressure	
hPa	: 1300
Del. quantity	
cm <sup>3</sup> /1000 strokes	: 306.0
Tolerance	
cm <sup>3</sup> /1000 strokes	: + 1.0
Check tolerance	
cm <sup>3</sup> /1000S.	: + 4.0
Spreed	
Tolerance	
cm <sup>3</sup> /1000 strokes	: 6.0
Check tolerance	
cm <sup>3</sup> /1000S.	: 10.0

CONTROL LEVER

control lever	
position degree	: 117.0
tolerance degree	: + 4.0

RATED SPEED

rack travel mm	: 14.30
Rated speed rpm	: 1195
Tolerance 1/min	: + 5
<hr/>	
rack travel mm	: 4.00
Rated speed rpm	: 1285
Tolerance 1/min	: + 15
<hr/>	
rack travel mm	: 0.50
Tolerance mm	: + 0.50
Rated speed rpm	: 1350

LOW IDLE

control lever	
position degree	: 66.0
tolerance degree	: + 4.0

Testing:

Rated speed rpm : 350  
rack travel mm : 5.60  
Tolerance mm : ± 0.10

Rated speed rpm : 250  
CRT mm min. : > 7.30  
Rated speed rpm : 475

---

TORQUE CONTROL

Rated speed rpm : 1150  
rack travel mm : 15.30  
Tolerance mm : ± 0.05  
  
Rated speed rpm : 750  
rack travel mm : 15.40  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1300  
rack travel mm : 15.40  
Tolerance mm : ± 0.10

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 8.45  
Tolerance mm : ± 0.15

Rated speed rpm : 500

Pressure hPa : 300  
rack travel mm : 10.20  
Tolerance mm : ± 0.05

Pressure hPa : 700  
rack travel mm : 13.80  
Tolerance mm : ± 0.15

---

START CUT-OUT

Rated speed rpm : > 200  
Rated speed rpm : < 310

Check  
speed 1/min : > 180

Check  
speed 1/min : < 330

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1300  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 315.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 8.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 15.0

Aneroid pressure  
hPa : 1300  
Rated speed rpm : 1150  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 234.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 15.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 124.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 15.0

---

BREAKAWAY

Rack travel in mm : 14.30  
Rated speed rpm : 1195  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 331.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 14.0

---

LOW IDLE

Rated speed rpm : 350  
rack travel mm : 5.60  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 15.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 22.08.95  
Test oil : ISO 4113  
Combination No. : 0 402 946 017  
Injection pump  
Pump designation : PE6P120A720RS8039  
EP type number : 0 412 926 026  
Governor  
Governor design. : RQV250...950PA1243  
Governor no. : 0 421 814 162

Cust. part No. : 1374808

Customer-spec. information  
Customer : SCANIA  
Motor : DSC 11.79

TEST BENCH REQUIREMENTS

Inlet line : EHAB  
Test oil inlet temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 2 417 413 082  
Inlet press. bar : 2.5  
Tolerance bar : ± 0.1  
Test nozzle holder assembly : 1 688 901 104  
Opening pressure bar : 251.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 008  
Outside diameter : 6.0

K05

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
Prestroke mm : 4.15  
Tolerance mm : ± 0.05  
Check tolerance mm : ± 0.10  
Rack travel in mm : 20.50  
Tolerance mm : ± 0.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check tolerance °NW : ± 0.50  
Start of delivery blocking  
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700  
Rack travel in mm : 11.90  
Tolerance mm : ± 0.05  
Del. quantity cm<sup>3</sup>/1000 strokes : 298.0  
Tolerance cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance cm<sup>3</sup>/1000s. : ± 4.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Rated speed rpm : 250

Rack travel in mm : 5.40  
Tolerance mm : + 0.30

Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 3.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 6.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250  
guide sleeve  
travel mm : 1.02  
Tolerance mm : + 0.20

Rated speed rpm : 1008  
guide sleeve  
travel mm : 8.27  
Tolerance mm : + 0.15

Rated speed rpm : 733  
guide sleeve  
travel mm : 6.04  
Tolerance mm : + 0.25

Rated speed rpm : 470  
guide sleeve  
travel mm : 3.78  
Tolerance mm : + 0.25

Rated speed rpm : 1290  
guide sleeve  
travel mm : 11.50  
Tolerance mm : + 0.50

---

GUIDE SLEEVE POSITION

Rated speed rpm : 1125

K06

Rack travel in mm : 10.90  
Tolerance mm : + 1.30

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700

Aneroid pressure  
hPa : 1500

Del. quantity  
cm<sup>3</sup>/1000 strokes : 298.0

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0

Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

---

CONTROL LEVER

control lever  
position degree : 51.0  
tolerance degree : + 4.0

control lever  
position degree : 115.0  
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.90  
Rated speed rpm : 995  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1125  
Tolerance 1/min : + 15

rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1200

---

LOW IDLE

control lever  
position degree : 81.0  
tolerance degree : + 4.0

control lever  
position degree : 17.0  
tolerance degree : + 4.0

Testing:

Rated speed rpm : 250  
rack travel mm : 5.40  
Tolerance mm : ± 0.10

Rated speed rpm : 150  
CRT mm min. : > 8.10  
Rated speed rpm : 300

TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 11.90  
Tolerance mm : ± 0.05

Rated speed rpm : 950  
rack travel mm : 11.90  
Tolerance mm : ± 0.05

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 11.90  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 9.20  
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 350  
rack travel mm : 10.30  
Tolerance mm : ± 0.15

Pressure hPa : 600  
rack travel mm : 11.40  
Tolerance mm : ± 0.05

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 170

Check speed 1/min : > 80  
Check speed 1/min : < 190

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure hPa : 1500  
Rated speed rpm : 950  
Del. quantity cm3/1000 strokes : 282.0  
Tolerance cm3/1000 strokes : ± 4.0  
Check tolerance cm3/1000S. : ± 6.0

Aneroid pressure hPa : -  
Rated speed rpm : 500  
Del. quantity cm3/1000 strokes : 197.0  
Tolerance cm3/1000 strokes : ± 1.0  
Check tolerance cm3/1000S. : ± 4.0

BREAKAWAY

Rack travel in mm : 10.90  
Rated speed rpm : 995  
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : ± 0.50

LOW IDLE

Rated speed rpm : 250  
rack travel mm : 5.40  
Tolerance mm : ± 0.30  
Del. quantity cm3/1000 strokes : 21.0  
Tolerance cm3/1000 strokes : ± 3.0  
Check tolerance cm3/1000S. : ± 6.0  
Speed

Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 29.01.96  
Test oil : ISO 4113  
Combination No. : 0 403 446 259  
Injection pump  
Pump designation : PES6MW100/72DRS1131  
: -1  
EP type number : 0 413 406 165  
Governor  
Governor design. : RQV300...1300MW68-2  
Governor no. : 0 420 083 224

Cust. part No. :

Customer-spec. information

Customer : MB-NFZ  
Motor : OM366LA  
Power KW : 177.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 417 413 047

Inlet press. bar : 1.5

Test nozzle holde  
assembly : 1 688 901 101

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 089

Outside diameter : 8.0

K09

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.65  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 14.45  
Tolerance mm : ± 0.05

Del. quantity  
cm3/1000 strokes : 112.0

Tolerance  
cm3/1000 strokes : ± 1.0

Check tolerance  
cm3/1000S. : ± 3.0

Speed  
Tolerance  
cm3/1000 strokes : 3.5

---

Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0  
 Rated speed rpm : 300  
 Rack travel in mm : 6.50  
 Tolerance mm : +- 0.20  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 12.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : +- 4.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 5.5

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

---

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 0.92  
 Tolerance mm : +- 0.25  
 Rated speed rpm : 1355  
 guide sleeve  
 travel mm : 8.60  
 Tolerance mm : +- 0.25  
 Rated speed rpm : 2240  
 guide sleeve  
 travel mm : 24.82  
 Tolerance mm : +- 0.25  
 Rated speed rpm : 721  
 guide sleeve  
 travel mm : 5.69  
 Tolerance mm : +- 0.25  
 Rated speed rpm : 771  
 guide sleeve  
 travel mm : 6.18  
 Tolerance mm : +- 0.25  
 Rated speed rpm : 1040  
 guide sleeve  
 travel mm : 7.10  
 Tolerance mm : +- 0.25  
 Rated speed rpm : 1485  
 guide sleeve  
 travel mm : 10.00

K10

Tolerance mm : +- 0.25  
 Rated speed rpm : 1620  
 guide sleeve  
 travel mm : 11.50  
 Tolerance mm : +- 0.50

---

GUIDE SLEEVE POSITION

Rated speed rpm : 1450  
 Rack travel in mm : 10.00  
 Tolerance mm : +- 2.70

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300  
 Aneroid pressure  
 hPa : 1000  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 112.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : +- 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : +- 3.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0

---

CONTROL LEVER

control lever  
 position degree : 114.0  
 tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 13.40  
 Rated speed rpm : 1345  
 Tolerance 1/min : +- 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1495  
 Tolerance 1/min : +- 15  
 rack travel mm : 0.50  
 Tolerance mm : +- 0.50  
 Rated speed rpm : 1600

---

LOW IDLE

control lever  
position degree : 77.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 6.50  
Tolerance mm : ± 0.10

Rated speed rpm : 200

CRT mm min. : > 8.00

---

TORQUE CONTROL

Rated speed rpm : 1300  
rack travel mm : 14.45  
Tolerance mm : ± 0.05

Rated speed rpm : 750  
rack travel mm : 14.45  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1000  
rack travel mm : 14.45  
Tolerance mm : ± 0.10

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 11.00  
Tolerance mm : ± 0.10

Rated speed rpm : 500

Pressure hPa : 400  
rack travel mm : 13.45  
Tolerance mm : ± 0.10

Pressure hPa : 200  
rack travel mm : 11.60  
Tolerance mm : ± 0.10

---

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 220

K11

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 240

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1000  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 108.0  
Tolerance

cm<sup>3</sup>/1000 strokes : ± 1.5  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 4.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 7.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 42.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 3.0

---

BREAKAWAY

Rack travel in mm : 13.40  
Rated speed rpm : 1345  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 105.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 5.0  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 8.0

---

LOW IDLE

Rated speed rpm : 300

rack travel mm : 6.50  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 30.01.96  
Test oil : ISO 4113  
Combination No. : 0 403 446 336  
Injection pump  
Pump designation : PES6MW100/720RS1131  
: -1  
EP type number : 0 413 406 165  
Governor  
Governor design. : RQV300...1300MW156  
Governor no. : 0 420 083 342  
Cust. part No. : 0270740602

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM366LA  
Power KW : 170.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0  
Overflow valve : 1 419 992 198  
Inlet press. bar : 1.5  
Test nozzle holder  
assembly : 1 688 901 101  
Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5  
Test lines : 1 680 750 089  
Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : + 1.0  
Prestroke mm : 3.65  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10  
Rack travel in mm : 10.50  
Tolerance mm : + 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

BASIC SETTING

Rated speed rpm : 1300  
Rack travel in mm : 14.45  
Tolerance mm : + 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 112.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000s. : + 3.0  
Spreed

Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

Rated speed rpm : 300

Rack travel in mm : 7.20  
Tolerance mm : ± 0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
guide sleeve  
travel mm : 1.69  
Tolerance mm : ± 0.20

Rated speed rpm : 1355  
guide sleeve  
travel mm : 8.41  
Tolerance mm : ± 0.15

Rated speed rpm : 1070  
guide sleeve  
travel mm : 6.53  
Tolerance mm : ± 0.25

Rated speed rpm : 650  
guide sleeve  
travel mm : 4.94  
Tolerance mm : ± 0.25

Rated speed rpm : 1502  
guide sleeve  
travel mm : 10.00  
Tolerance mm : ± 0.25

Rated speed rpm : 1630  
guide sleeve  
travel mm : 11.50  
Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1450

Rack travel in mm : 11.00  
Tolerance mm : ± 2.70

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300

Aneroid pressure  
hPa : 1000

Del. quantity  
cm<sup>3</sup>/1000 strokes : 112.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

CONTROL LEVER

control lever  
position degree : 123.0  
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 13.40  
Rated speed rpm : 1345  
Tolerance 1/min : ± 5

rack travel mm : 4.00  
Rated speed rpm : 1500  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1600

LOW IDLE

control lever  
position degree : 73.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 7.20  
Tolerance mm : ± 0.10

Rated speed rpm : 200  
CRT mm min. : > 8.50

---

#### TORQUE CONTROL

Rated speed rpm : 1300  
rack travel mm : 14.45  
Tolerance mm : ± 0.05

Rated speed rpm : 750  
rack travel mm : 14.45  
Tolerance mm : ± 0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

##### SETTING

Rated speed rpm : 500  
Pressure hPa : 1000  
rack travel mm : 14.45  
Tolerance mm : ± 0.05

##### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 11.00  
Tolerance mm : ± 0.05

Rated speed rpm : 500

Pressure hPa : 400  
rack travel mm : 13.40  
Tolerance mm : ± 0.10

Pressure hPa : 200  
rack travel mm : 11.60  
Tolerance mm : ± 0.10

---

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 180

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 200

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1000  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 107.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 41.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

---

#### BREAKAWAY

Rack travel in mm : 13.40  
Rated speed rpm : 1345  
Tolerance 1/min : ± 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 105.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 8.0

---

#### LOW IDLE

Rated speed rpm : 300  
rack travel mm : 7.20  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000s. : +- 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000s. : 5.5

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 29.01.96  
Test oil : ISO 4113  
Combination No. : 9 400 030 737  
Injection pump  
Pump designation : PES6A95D320/3RS2881  
EP type number : 9 410 037 215  
Governor  
Governor design. : RSV475...1100A0C850R  
Governor no. : 9 420 034 716  
Cust. part No. : 3929409

Customer-spec. information

Customer : CDC  
Motor : 6BT  
Power KW : 90.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2  
Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0  
Overflow valve : 1 417 413 047  
Inlet press. bar : 2.0  
Test nozzle holder  
assembly : 1 688 901 101  
Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : + 1.0  
Prestroke mm : 2.85  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10  
Rack travel in mm : 10.50  
Tolerance mm : + 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75  
Start of delivery blocking  
°NW after s.o.d. : 7.50  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75  
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100  
Rack travel in mm : 10.25  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 81.5

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

---

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 6.5

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
Rack travel in mm : 0.50  
Tolerance mm : ± 0.20

governor spring  
pre-tension  
click setting x : 5.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
Aneroid pressure  
hPa : 900  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 81.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 6.5

CONTROL LEVER

control lever  
position degree : 97.0  
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 9.20  
Rated speed rpm : 1165  
Tolerance 1/min : ± 5

rack travel mm : 4.50  
Rated speed rpm : 1215  
Tolerance 1/min : ± 5

rack travel mm : 0.85  
Tolerance mm : ± 0.55  
Rated speed rpm : 1300

LOW IDLE

control lever  
position degree : 85.5  
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 475  
rack travel mm : 4.60

Testing:

Rated speed rpm : 475  
rack travel mm : 5.10  
Tolerance mm : ± 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 10.25  
Tolerance mm : ± 0.05

Rated speed rpm : 800  
rack travel mm : 10.90  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 800  
Pressure hPa : 900

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 800  
rack travel mm : 8.70  
Tolerance mm : ± 0.20

Rated speed rpm : 800

Pressure hPa : 450  
rack travel mm : 10.50  
Tolerance mm : ± 0.20

Pressure hPa : 275  
rack travel mm : 9.50  
Tolerance mm : ± 0.20

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 900  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 93.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 65.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

---

BREAKAWAY

Rack travel in mm : 9.20  
Rated speed rpm : 1165  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : ± 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 15.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 29.01.96  
Test oil : ISO 4113  
Combination No. : 9 400 030 738  
Injection pump  
Pump designation : PES6A95D320/3RS2881  
EP type number : 9 410 037 215  
Governor  
Governor design. : RSV475...1100A0C851R  
Governor no. : 9 420 034 717

Cust. part No. : 3929408

Customer-spec. information  
Customer : CDC  
Motor : 6BT  
Power KW : 98.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 417 413 047  
Inlet press. bar : 2.0  
Test nozzle holde  
assembly : 1 688 901 101  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0

K20

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : ± 1.0  
Prestroke mm : 2.85  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75  
Start of delivery blocking  
°NW after s.o.d. : 7.50  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75  
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100  
Rack travel in mm : 11.05  
Tolerance mm : ± 0.05



Del. quantity  
cm<sup>3</sup>/1000 strokes : 92.5

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

---

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 6.5

Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.5

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : ± 0.20

governor spring  
pre-tension  
click setting x : 5.00

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
Aneroid pressure  
hPa : 900  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 92.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 6.5

---

CONTROL LEVER

control lever  
position degree : 96.0  
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 10.00  
Rated speed rpm : 1165  
Tolerance 1/min : ± 5

rack travel mm : 4.50  
Rated speed rpm : 1215  
Tolerance 1/min : ± 5

rack travel mm : 0.85  
Tolerance mm : ± 0.55  
Rated speed rpm : 1300

---

LOW IDLE

control lever  
position degree : 85.5  
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 475  
rack travel mm : 4.60

Testing:

Rated speed rpm : 475  
rack travel mm : 5.10  
Tolerance mm : ± 0.10

Rated speed rpm : 100  
CRT mm min. : > 19.00

---

TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 11.05  
Tolerance mm : ± 0.05

Rated speed rpm : 800  
rack travel mm : 11.80  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 800  
Pressure hPa : 900

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 800  
rack travel mm : 8.70  
Tolerance mm : +- 0.20

Rated speed rpm : 800

Pressure hPa : 650  
rack travel mm : 11.20  
Tolerance mm : +- 0.20

Pressure hPa : 350  
rack travel mm : 9.50  
Tolerance mm : +- 0.20

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 900  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 104.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 65.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 3.0

---

BREAKAWAY

Rack travel in mm : 10.00  
Rated speed rpm : 1165  
Tolerance 1/min : +- 5

K22

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : +- 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 15.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 29.01.96  
Test oil : ISO 4113  
  
Combination No. : 9 400 030 739  
  
Injection pump  
Pump designation : PES6A95D320/3RS2881  
EP type number : 9 410 037 215  
  
Governor  
Governor design. : RSV475...1250A0C852R  
Governor no. : 9 420 034 718

Cust. part No. : 3929403

Customer-spec. information  
Customer : CDC  
Motor : 6BT  
Power KW : 114.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 1 417 413 047  
  
Inlet press. bar : 2.0  
  
Test nozzle holde  
assembly : 1 688 901 101  
  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
  
Test lines : 1 680 750 014  
  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 2.85  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
  
Firing order : 1- 5- 3- 6- 2-  
: 4  
  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75  
  
Start of delivery blocking  
  
°NW after s.o.d. : 7.50  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75  
  
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250  
  
Rack travel in mm : 11.75  
Tolerance mm : ± 0.05

Del. quantity  
cm3/1000 strokes : 101.5

---

Tolerance  
cm3/1000 strokes : ± 1.0

---

Check tolerance  
cm3/1000S. : ± 3.0

---

Spreed  
Tolerance  
cm3/1000 strokes : 4.0

---

Check tolerance  
cm3/1000S. : 6.5

---

Del. quantity  
cm3/1000 strokes : 21.5  
Tolerance  
cm3/1000 strokes : ± 2.0  
Check tolerance  
cm3/1000S. : ± 4.5  
Spreed  
Tolerance  
cm3/1000 strokes : 6.0  
Check tolerance  
cm3/1000S. : 8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : ± 0.20

governor spring  
pre-tension  
click setting x : 5.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
Aneroid pressure  
hPa : 900  
Del. quantity  
cm3/1000 strokes : 101.5  
Tolerance  
cm3/1000 strokes : ± 1.0  
Check tolerance  
cm3/1000S. : ± 3.0  
Spreed  
Tolerance  
cm3/1000 strokes : 4.0

Check tolerance  
cm3/1000S. : 6.5

CONTROL LEVER

control lever  
position degree : 102.0  
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 10.70  
Rated speed rpm : 1305  
Tolerance 1/min : ± 5

rack travel mm : 4.50  
Rated speed rpm : 1375  
Tolerance 1/min : ± 5

rack travel mm : 0.85  
Tolerance mm : ± 0.55  
Rated speed rpm : 1450

LOW IDLE

control lever  
position degree : 89.0  
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 475  
rack travel mm : 4.60

Testing:

Rated speed rpm : 475  
rack travel mm : 5.10  
Tolerance mm : ± 0.10

Rated speed rpm : 100  
CRT mm min. : > 19.00

TORQUE CONTROL

Rated speed rpm : 1250  
rack travel mm : 11.75  
Tolerance mm : ± 0.05

Rated speed rpm : 800  
rack travel mm : 12.10  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 800  
Pressure hPa : 900

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 800  
rack travel mm : 8.70  
Tolerance mm : ± 0.20

Rated speed rpm : 800

Pressure hPa : 600  
rack travel mm : 11.50  
Tolerance mm : ± 0.20

Pressure hPa : 275  
rack travel mm : 9.50  
Tolerance mm : ± 0.20

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 900  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 107.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 4.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 65.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 3.0

---

BREAKAWAY

Rack travel in mm : 10.70  
Rated speed rpm : 1305  
Tolerance 1/min : ± 5

K25

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : ± 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 10.0  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 15.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000s. : 8.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 30.01.96  
Test oil : ISO 4113  
  
Combination No. : 0 400 836 019  
  
Injection pump  
Pump designation : PES6A80D410/3RS2527  
EP type number : 0 410 886 059  
  
Governor  
Governor design. : RQ300/1250AB935-2L  
Governor no. : 0 420 200 107

Cust. part No. :

Customer-spec. information  
Customer : KHD  
Motor : F6L912  
Power kW : 89.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 1 419 992 198  
  
Inlet press. bar : 1.5  
  
Test nozzle holde  
assembly : 0 681 343 009  
  
Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5  
  
Test lines : 1 680 750 014  
  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 1.95  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 12.55  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 67.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5

Check tolerance  
cm<sup>3</sup>/1000S. : ± 2.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.5

Check tolerance  
 cm<sup>3</sup>/1000S. : 4.0  
 Rated speed rpm : 300  
 Rack travel in mm : 8.50  
 Tolerance mm : ± 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 10.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 1.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 3.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 4.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 20.00  
 Tolerance mm : ± 0.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 67.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 0.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 2.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 2.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 4.0

RATED SPEED

rack travel mm : 11.50  
 Rated speed rpm : 1303  
 Tolerance 1/min : ± 8  
 rack travel mm : 4.00  
 Rated speed rpm : 1390  
 Tolerance 1/min : ± 15

LOW IDLE

Testing:

Rated speed rpm : 300  
 rack travel mm : 8.50  
 Tolerance mm : ± 0.10  
 rack travel mm : 2.00  
 Rated speed rpm : 625  
 Tolerance 1/min : ± 20  
 Rated speed rpm : 100  
 CRT mm min. : > 9.50

TORQUE CONTROL

Dimension a mm : 1.30  
 Rated speed rpm : 1250  
 rack travel mm : 12.55  
 Tolerance mm : ± 0.05  
 Rated speed rpm : 800  
 rack travel mm : 13.80  
 Tolerance mm : ± 0.05  
 Rated speed rpm : 910  
 rack travel mm : 13.50  
 Tolerance mm : ± 0.10  
 Rated speed rpm : 1045  
 rack travel mm : 12.85  
 Tolerance mm : ± 0.15

START CUT-OUT

Rated speed rpm : > 100  
 Rated speed rpm : < 220  
 Check  
 speed 1/min : > 80  
 Check  
 speed 1/min : < 240

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
 hPa : -  
 Rated speed rpm : 800  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 71.5

Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0

---

#### BREAKAWAY

Rack travel in mm : 11.50  
Rated speed rpm : 1303  
Tolerance 1/min : + 8

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : + 1.00  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 125.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 7.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 10.0

---

#### LOW IDLE

Rated speed rpm : 300  
rack travel mm : 8.50  
Tolerance mm : + 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 10.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 29.01.96  
Test oil : ISO 4113  
Combination No. : 0 400 863 020  
Injection pump  
Pump designation : PES3A95D410/3RS2905  
EP type number : 0 410 893 996  
Governor  
Governor design. : RSV325...1250A5C858L  
Governor no. : 0 420 232 621

Cust. part No. : 0423 1592 KY

Customer-spec. information

Customer : KHD-DMI  
Motor : F3L912/913\_NEU  
Power KW : 40.5

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet temp. °C : 40  
Tolerance °C : + 2.0  
Overflow valve : 1 419 992 198  
Inlet press. bar : 1.5  
Test nozzle holder assembly : 0 681 343 009  
Opening pressure bar : 173.5  
Tolerance bar : + 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0  
Prestroke mm : 3.00  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10  
Rack travel in mm : 10.50  
Tolerance mm : + 1.50  
Firing order : 1- 3- 2  
Phasing : 0-120-240

BASIC SETTING

Rated speed rpm : 1250  
Rack travel in mm : 11.35  
Tolerance mm : + 0.05  
Del. quantity cm<sup>3</sup>/1000 strokes : 76.0  
Tolerance cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance cm<sup>3</sup>/1000s. : + 3.0  
Spreec. Tolerance cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance cm<sup>3</sup>/1000s. : 8.0  
Rated speed rpm : 325

Rack travel in mm : 9.40  
 Tolerance mm : + 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 21.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : + 0.20  
 governor spring  
 pre-tension  
 click setting x : 2.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 76.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 3.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

CONTROL LEVER

control lever  
 position degree : 99.0  
 tolerance degree : + 4.0

RATED SPEED

L02

rack travel mm : 10.35  
 Rated speed rpm : 1295  
 Tolerance 1/min : + 5

rack travel mm : 4.00  
 Rated speed rpm : 1355  
 Tolerance 1/min : + 15

rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1450

rack travel mm : 4.00  
 Rated speed rpm : 1365

LOW IDLE

control lever  
 position degree : 65.0  
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
 rack travel mm : 8.90

Testing:

Rated speed rpm : 325  
 rack travel mm : 9.40  
 Tolerance mm : + 0.10

rack travel mm : 2.00  
 Rated speed rpm : 500  
 Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 1250  
 rack travel mm : 11.35  
 Tolerance mm : + 0.05

Rated speed rpm : 750  
 rack travel mm : 11.35  
 Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
 hPa : -  
 Rated speed rpm : 750

Del. quantity  
cm<sup>3</sup>/1000 strokes : 70.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

#### BREAKAWAY

Rack travel in mm : 10.35  
Rated speed rpm : 1295  
Tolerance 1/min : ± 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.25  
Tolerance mm : ± 0.75  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 7.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 10.0

---

#### LOW IDLE

Rated speed rpm : 325  
rack travel mm : 9.40  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions. See microcard(s) W400/...

Edition : 30.01.96
Test oil : ISO 4113
Combination No. : 0 400 863 022
Injection pump
Pump designation : PES3A95D410/3RS2905
EP type number : 0 410 893 996
Governor
Governor design. : RSV325...1250A5C860L
Governor no. : 0 420 232 623

Cust. part No. : 0423 1730 KY

Customer-spec. information
Customer : KHD-DMI
Motor : F3L912/913\_NEU
Power KW : 44.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet
temp. °C : 40
Tolerance °C : + 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holde
assembly : 0 681 343 009

Opening pressure
bar : 173.5
Tolerance bar : + 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES
Set equal delivery quant.
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0
Tolerance bar : + 1.0

Prestroke mm : 3.00
Tolerance mm : + 0.05
Check
tolerance mm : + 0.10

Rack travel in mm : 10.50
Tolerance mm : + 1.50

Firing order : 1- 3- 2

Phasing : 0-120-240

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 11.35
Tolerance mm : + 0.05

Del. quantity
cm3/1000 strokes : 76.0

Tolerance
cm3/1000 strokes : + 1.0

Check tolerance
cm3/1000S. : + 3.0

Spreed
Tolerance
cm3/1000 strokes : 3.5

Check tolerance
cm3/1000S. : 8.0

Rated speed rpm : 325

Rack travel in mm : 9.40  
Tolerance mm : +- 0.10  
Del. quantity  
cm3/1000 strokes : 21.0  
Tolerance  
cm3/1000 strokes : +- 2.0  
Check tolerance  
cm3/1000S. : +- 4.5  
Spreed  
Tolerance  
cm3/1000 strokes : 5.5  
Check tolerance  
cm3/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
  
Rack travel in mm : 0.50  
Tolerance mm : +- 0.20

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
Aneroid pressure  
hPa : -  
Del. quantity  
cm3/1000 strokes : 76.0  
Tolerance  
cm3/1000 strokes : +- 1.0  
Check tolerance  
cm3/1000S. : +- 3.0  
Spreed  
Tolerance  
cm3/1000 strokes : 3.5  
Check tolerance  
cm3/1000S. : 8.0

---

CONTROL LEVER

control lever  
position degree : 99.0  
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 10.35  
Rated speed rpm : 1295  
Tolerance 1/min : +- 5

rack travel mm : 4.00  
Rated speed rpm : 1355  
Tolerance 1/min : +- 15

rack travel mm : 0.85  
Tolerance mm : +- 0.55  
Rated speed rpm : 1450

rack travel mm : 4.00  
Rated speed rpm : 1365

---

LOW IDLE

control lever  
position degree : 65.0  
tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
rack travel mm : 8.90

Testing:

Rated speed rpm : 325  
rack travel mm : 9.40  
Tolerance mm : +- 0.10

---

TORQUE CONTROL

Rated speed rpm : 1250  
rack travel mm : 11.35  
Tolerance mm : +- 0.05

Rated speed rpm : 750  
rack travel mm : 11.35  
Tolerance mm : +- 0.10

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 750  
Del. quantity  
cm3/1000 strokes : 70.0  
Tolerance  
cm3/1000 strokes : +- 2.0  
Check tolerance  
cm3/1000S. : +- 4.0

---

BREAKAWAY

Rack travel in mm : 10.35  
Rated speed rpm : 1295  
Tolerance 1/min : + 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.25  
Tolerance mm : + 0.75  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 7.5  
Check tolerance  
cm<sup>3</sup>/1000S. : + 10.0

---

LOW IDLE

Rated speed rpm : 325  
rack travel mm : 9.40  
Tolerance mm : + 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 30.01.96  
Test oil : ISO 4113  
Combination No. : 0 400 863 023  
Injection pump  
Pump designation : PES3A95D410/3RS2905  
EP type number : 0 410 893 996  
Governor  
Governor design. : RSV325...1250A5C861L  
Governor no. : 0 420 232 624  
Cust. part No. : 0423 1731 KY

Customer-spec. information  
Customer : KHD-DMI  
Motor : F3L912/913\_NEU  
Power KW : 44.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 419 992 198  
Inlet press. bar : 1.5  
Test nozzle holder assembly : 0 681 343 009  
Opening pressure bar : 173.5  
Tolerance bar : ± 1.5  
Test Lines : 1 680 750 014  
Outside diameter : 6.0

L07

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.00  
Tolerance mm : ± 0.05  
Check tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 3- 2

Phasing : 0-120-240

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 11.35  
Tolerance mm : ± 0.05

Del. quantity cm3/1000 strokes : 76.0

Tolerance cm3/1000 strokes : ± 1.0

Check tolerance cm3/1000S. : ± 3.0

Speed Tolerance cm3/1000 strokes : 3.5

Check tolerance cm3/1000S. : 8.0

Rated speed rpm : 325

Rack travel in mm : 9.40  
Tolerance mm : + 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
Rack travel in mm : 0.50  
Tolerance mm : + 0.20

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 76.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

CONTROL LEVER

control lever  
position degree : 99.0  
tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.35  
Rated speed rpm : 1295  
Tolerance 1/min : + 5

rack travel mm : 4.00  
Rated speed rpm : 1355  
Tolerance 1/min : + 15

rack travel mm : 0.85  
Tolerance mm : + 0.55  
Rated speed rpm : 1450

rack travel mm : 4.00  
Rated speed rpm : 1365

LOW IDLE

control lever  
position degree : 65.0  
tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
rack travel mm : 8.90

Testing:

Rated speed rpm : 325  
rack travel mm : 9.40  
Tolerance mm : + 0.10

TORQUE CONTROL

Rated speed rpm : 1250  
rack travel mm : 11.35  
Tolerance mm : + 0.05

Rated speed rpm : 750  
rack travel mm : 11.35  
Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 70.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 4.0

BREAKAWAY



Rack travel in mm : 10.35  
Rated speed rpm : 1295  
Tolerance 1/min :  $\pm$  5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.25  
Tolerance mm :  $\pm$  0.75  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  7.5  
Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  10.0

---

#### LOW IDLE

Rated speed rpm : 325  
rack travel mm : 9.40  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000s. : 9.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 29.01.96  
Test oil : ISO 4113  
Combination No. : 0 400 864 099  
Injection pump  
Pump designation : PES4A95D410/3RS2789  
EP type number : 0 410 894 995  
Governor  
Governor design. : RSV325...1250A5C858L  
Governor no. : 0 420 232 621

Cust. part No. : 0423 1595 KY

Customer-spec. information  
Customer : KHD-DMI  
Motor : F4L912/913\_NEU  
Power KW : 54.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 419 992 198  
Inlet press. bar : 1.5  
Test nozzle holde  
assembly : 0 681 343 009  
Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.00  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 11.35  
Tolerance mm : ± 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 76.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 325

Rack travel in mm : 9.40  
 Tolerance mm : + 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 21.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : + 0.20  
 governor spring  
 pre-tension  
 click setting x : 2.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 76.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 3.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

CONTROL LEVER

control lever  
 position degree : 99.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.35  
 Rated speed rpm : 1295  
 Tolerance 1/min : + 5

rack travel mm : 4.00  
 Rated speed rpm : 1355  
 Tolerance 1/min : + 15

rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1450

rack travel mm : 4.00  
 Rated speed rpm : 1365

LOW IDLE

control lever  
 position degree : 65.0  
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
 rack travel mm : 8.90

Testing:

Rated speed rpm : 325  
 rack travel mm : 9.40  
 Tolerance mm : + 0.10

TORQUE CONTROL

Rated speed rpm : 1250  
 rack travel mm : 11.35  
 Tolerance mm : + 0.05

Rated speed rpm : 750  
 rack travel mm : 11.35  
 Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
 hPa : -  
 Rated speed rpm : 750  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 70.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

---

BREAKAWAY

Rack travel in mm : 10.35  
Rated speed rpm : 1295  
Tolerance 1/min : +- 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.25  
Tolerance mm : +- 0.75  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 7.5  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 10.0

---

LOW IDLE

Rated speed rpm : 325  
rack travel mm : 9.40  
Tolerance mm : +- 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 29.01.96  
Test oil : ISO 4113  
Combination No. : 0 400 864 100  
Injection pump  
Pump designation : PES4A95D410/3RS2905  
EP type number : 0 410 894 995  
Governor  
Governor design. : RSV325...900A1C859L  
Governor no. : 0 420 232 622  
Cust. part No. : 0423 1596 KY

Customer-spec. information  
Customer : KHD-DMI  
Motor : F4L912/913\_NEU  
Power KW : 54.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0  
Overflow valve : 1 419 992 198  
Inlet press. bar : 1.5  
Test nozzle holde  
assembly : 0 681 343 009  
Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0  
Prestroke mm : 3.00  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10  
Rack travel in mm : 10.50  
Tolerance mm : + 1.50  
Firing order : 1- 3- 4- 2  
Phasing : 0-90-180-270

BASIC SETTING

Del. quantity  
cm3/1000 strokes : 80.0  
Tolerance  
cm3/1000 strokes : + 1.0  
Check tolerance  
cm3/1000S. : + 3.0  
Speed  
Tolerance  
cm3/1000 strokes : 3.5  
Check tolerance  
cm3/1000S. : 8.0  
Rated speed rpm : 325  
Rack travel in mm : 9.40  
Tolerance mm : + 0.10  
Del. quantity  
cm3/1000 strokes : 21.0

Tolerance  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : + 0.20  
 governor spring  
 pre-tension  
 click setting x : 2.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 890  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 80.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 3.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

CONTROL LEVER

control lever  
 position degree : 89.9  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.80  
 Rated speed rpm : 898  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00

Rated speed rpm : 918  
 Tolerance 1/min : + 10  
 rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1090  
 rack travel mm : 4.00  
 Rated speed rpm : 940

LOW IDLE

control lever  
 position degree : 68.0  
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
 rack travel mm : 8.90

Testing:

rack travel mm : 2.00  
 Rated speed rpm : 425  
 Tolerance 1/min : + 30

BREAKAWAY

Rack travel in mm : 10.80  
 Rated speed rpm : 898  
 Tolerance 1/min : + 5

STARTING FUEL DELIVERY

Rated speed rpm : 100  
 rack travel mm : 20.25  
 Tolerance mm : + 0.75  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 120.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 7.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 10.0

---

LOW IDLE

Rated speed rpm : 325  
rack travel mm : 9.40  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 30.01.96  
Test oil : ISO 4113  
Combination No. : 0 400 864 101  
Injection pump  
Pump designation : PES4A95D410/3RS2789  
EP type number : 0 410 894 995  
Governor  
Governor design. : RSV325...1250A5C860L  
Governor no. : 0 420 232 623  
Cust. part No. : 0423 1788 KY

Customer-spec. information  
Customer : KHD-DMI  
Motor : F4L912/913\_NEU  
Power KW : 59.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet temp. °C : 40  
Tolerance °C : + 2.0  
Overflow valve : 1 419 992 198  
Inlet press. bar : 1.5  
Test nozzle holder assembly : 0 681 343 009  
Opening pressure bar : 173.5  
Tolerance bar : + 1.5  
Test Lines : 1 680 750 014  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.00  
Tolerance mm : + 0.05  
Check tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 11.35  
Tolerance mm : + 0.05

Del. quantity cm<sup>3</sup>/1000 strokes : 76.0

Tolerance cm<sup>3</sup>/1000 strokes : + 1.0

Check tolerance cm<sup>3</sup>/1000S. : + 3.0

Spread Tolerance cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 325



Rack travel in mm : 9.40  
 Tolerance mm : + 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 21.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : + 0.20  
 governor spring  
 pre-tension  
 click setting x : 2.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 76.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 3.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

CONTROL LEVER

control lever  
 position degree : 99.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.35  
 Rated speed rpm : 1295  
 Tolerance 1/min : + 5

rack travel mm : 4.00  
 Rated speed rpm : 1355  
 Tolerance 1/min : + 15

rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1450

rack travel mm : 4.00  
 Rated speed rpm : 1365

LOW IDLE

control lever  
 position degree : 65.0  
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
 rack travel mm : 8.90

Testing:

Rated speed rpm : 325  
 rack travel mm : 9.40  
 Tolerance mm : + 0.10

TORQUE CONTROL

Rated speed rpm : 1250  
 rack travel mm : 11.35  
 Tolerance mm : + 0.05

Rated speed rpm : 750  
 rack travel mm : 11.35  
 Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
 hPa : -  
 Rated speed rpm : 750  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 70.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

#### BREAKAWAY

Rack travel in mm : 10.35  
Rated speed rpm : 1295  
Tolerance 1/min : ± 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.25  
Tolerance mm : ± 0.75  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 7.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 10.0

---

#### LOW IDLE

Rated speed rpm : 325  
rack travel mm : 9.40  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

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End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 29.01.96  
Test oil : ISO 4113  
  
Combination No. : 0 400 864 102  
  
Injection pump  
Pump designation : PES4A95D410/3RS2789  
EP type number : 0 410 894 995  
  
Governor  
Governor design. : RSV325...1250A5C861L  
Governor no. : 0 420 232 624  
  
Cust. part No. : 0423 1789 KY

Customer-spec. information  
Customer : KHD-DMI  
Motor : F4L912/913\_NEU  
Power KW : 59.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : +- 2.0  
  
Overflow valve : 1 419 992 198  
  
Inlet press. bar : 1.5  
  
Test nozzle holde  
assembly : 0 681 343 009  
  
Opening pressure  
bar : 173.5  
Tolerance bar : +- 1.5  
  
Test lines : 1 680 750 014  
  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : +- 1.0

Prestroke mm : 3.00  
Tolerance mm : +- 0.05  
Check  
tolerance mm : +- 0.10

Rack travel in mm : 10.50  
Tolerance mm : +- 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 11.35  
Tolerance mm : +- 0.05

Del. quantity  
cm3/1000 strokes : 76.0

Tolerance  
cm3/1000 strokes : +- 1.0

Check tolerance  
cm3/1000S. : +- 3.0

Speed  
Tolerance  
cm3/1000 strokes : 3.5

Check tolerance  
cm3/1000S. : 8.0

Rated speed rpm : 325

Rack travel in mm : 9.40  
 Tolerance mm : + 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 21.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : + 0.20  
 governor spring  
 pre-tension  
 click setting x : 2.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 76.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 3.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

CONTROL LEVER

control lever  
 position degree : 99.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.35  
 Rated speed rpm : 1295  
 Tolerance 1/min : + 5

rack travel mm : 4.00  
 Rated speed rpm : 1355  
 Tolerance 1/min : + 15

rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1450

rack travel mm : 4.00  
 Rated speed rpm : 1365

LOW IDLE

control lever  
 position degree : 65.0  
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
 rack travel mm : 8.90

Testing:

Rated speed rpm : 325  
 rack travel mm : 9.40  
 Tolerance mm : + 0.10

TORQUE CONTROL

Rated speed rpm : 1250  
 rack travel mm : 11.35  
 Tolerance mm : + 0.05

Rated speed rpm : 750  
 rack travel mm : 11.35  
 Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
 hPa : -  
 Rated speed rpm : 750  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 70.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

#### BREAKAWAY

Rack travel in mm : 10.35  
Rated speed rpm : 1295  
Tolerance 1/min : ± 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.25  
Tolerance mm : ± 0.75  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 7.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 10.0

---

#### LOW IDLE

Rated speed rpm : 325  
rack travel mm : 9.40  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 30.01.96  
Test oil : ISO 4113  
Combination No. : 0 400 865 028  
Injection pump  
Pump designation : PES5A95D410/3RS2906  
EP type number : 0 410 895 971  
Governor  
Governor design. : RSV325...1250A5C858L  
Governor no. : 0 420 232 621  
Cust. part No. : 0423 1598 KY

Customer-spec. information  
Customer : KHD-DMI  
Motor : F5L912/913\_NEU  
Power KW : 67.5

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 419 992 198  
Inlet press. bar : 1.5  
Test nozzle holder assembly : 0 681 343 009  
Opening pressure bar : 173.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
Prestroke mm : 3.00  
Tolerance mm : ± 0.05  
Check tolerance mm : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 3- 5- 4- 2  
Phasing : 0-72-144-216-288

BASIC SETTING

Rated speed rpm : 1250  
Rack travel in mm : 11.35  
Tolerance mm : ± 0.05  
Del. quantity cm<sup>3</sup>/1000 strokes : 70.0  
Tolerance cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance cm<sup>3</sup>/1000S. : ± 3.0  
Speed Tolerance cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance cm<sup>3</sup>/1000S. : 8.0  
Rated speed rpm : 325

Rack travel in mm : 9.40  
 Tolerance mm : + 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 21.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000s. : + 4.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance  
 cm<sup>3</sup>/1000s. : 9.0

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : + 0.20  
 governor spring  
 pre-tension  
 click setting x : 2.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 70.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000s. : + 3.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000s. : 8.0

CONTROL LEVER

control lever  
 position degree : 99.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.35  
 Rated speed rpm : 1295  
 Tolerance 1/min : + 5

rack travel mm : 4.00  
 Rated speed rpm : 1355  
 Tolerance 1/min : + 15

rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1450

rack travel mm : 4.00  
 Rated speed rpm : 1365

LOW IDLE

control lever  
 position degree : 65.0  
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
 rack travel mm : 8.90

Testing:

Rated speed rpm : 325  
 rack travel mm : 9.40  
 Tolerance mm : + 0.10

TORQUE CONTROL

Rated speed rpm : 1250  
 rack travel mm : 11.35  
 Tolerance mm : + 0.05

Rated speed rpm : 750  
 rack travel mm : 11.35  
 Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
 hPa : -  
 Rated speed rpm : 750  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 62.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.0

---

BREAKAWAY

Rack travel in mm : 10.35  
Rated speed rpm : 1295  
Tolerance 1/min : +- 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.25  
Tolerance mm : +- 0.75  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 7.5  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 10.0

---

LOW IDLE

Rated speed rpm : 325  
rack travel mm : 9.40  
Tolerance mm : +- 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 31.01.96  
Test oil : ISO 4113  
Combination No. : 0 400 866 082  
Injection pump  
Pump designation : PES6A85D410/3RS2415  
EP type number : 0 410 886 915  
Governor  
Governor design. : RS325/1325A0C709DL  
Governor no. : 0 420 220 009

Cust. part No. :

Customer-spec. information  
Customer : KHD  
Motor : BF6L913

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 419 992 198  
Inlet press. bar : 1.5  
Test nozzle holder assembly : 0 581 343 009  
Opening pressure bar : 173.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0  
x inside diameter : 2.0

L25

x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
Prestroke mm : 1.95  
Tolerance mm : ± 0.05  
Check tolerance mm : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300

BASIC SETTING

Rated speed rpm : 1325  
Rack travel in mm : 12.05  
Tolerance mm : ± 0.05  
Del. quantity cm3/1000 strokes : 87.0  
Tolerance cm3/1000 strokes : ± 0.5  
Check tolerance cm3/1000S. : ± 2.5  
Speed Tolerance cm3/1000 strokes : 3.0  
Check tolerance cm3/1000S. : 7.0

Rated speed rpm : 325

Rack travel in mm : 8.30  
 Tolerance mm : ± 0.10

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 16.5  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 4.0

Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 4.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 7.0

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1325  
 Aneroid pressure  
 hPa : 700

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 87.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 0.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 2.5

Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 7.0

CONTROL LEVER

control lever  
 position degree : 68.0  
 tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 11.00  
 Rated speed rpm : 1360  
 Tolerance 1/min : ± 5

rack travel mm : 4.00  
 Rated speed rpm : 1465  
 Tolerance 1/min : ± 15

rack travel mm : 0.85  
 Tolerance mm : ± 0.55

Rated speed rpm : 1600

LOW IDLE

Setting point w/out bumper spring

Rated speed rpm : 500  
 rack travel mm : 3.70

Testing:

Rated speed rpm : 325  
 rack travel mm : 6.50  
 Tolerance mm : ± 0.10

rack travel mm : 2.00  
 Rated speed rpm : 375  
 Tolerance 1/min : ± 25

Rated speed rpm : 100

CRT mm min. : 14.75

TORQUE CONTROL

Rated speed rpm : 1325  
 rack travel mm : 12.05  
 Tolerance mm : ± 0.05

Rated speed rpm : 500  
 rack travel mm : 12.10  
 Tolerance mm : ± 0.10

Rated speed rpm : 800  
 rack travel mm : 12.10  
 Tolerance mm : ± 0.10

ANEROID/ALTITUDE  
 COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
 Pressure hPa : 700  
 rack travel mm : 12.05  
 Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
 Rated speed rpm : 500  
 rack travel mm : 10.75  
 Tolerance mm : ± 0.05

Rated speed rpm : 500

Pressure hPa : 266  
rack travel mm : 11.30  
Tolerance mm : ± 0.10

Pressure hPa : 373  
rack travel mm : 11.75  
Tolerance mm : ± 0.05

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 700  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 78.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.5

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 57.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 0.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 2.5

---

#### BREAKAWAY

Rack travel in mm : 11.00  
Rated speed rpm : 1360  
Tolerance 1/min : ± 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 16.50  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 108.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 7.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 10.0

---

#### LOW IDLE

L27

Rated speed rpm : 325  
rack travel mm : 8.30  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 16.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 29.01.96  
Test oil : ISO 4113  
Combination No. : 0 400 866 224  
Injection pump  
Pump designation : PES3A95D410/3RS2905  
EP type number :  
Governor  
Governor design. : RSV325...1250A5C858L  
Governor no. :  
Cust. part No. : 0423 1592 KY

Customer-spec. information  
Customer : KHD-DMI  
Motor : F3L912/913\_NEU  
Power KW : 40.5

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 419 992 198  
Inlet press. bar : 1.5  
Test nozzle holder assembly : 0 681 343 009  
Opening pressure bar : 173.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0  
Prestroke mm : 3.00  
Tolerance mm : ± 0.05  
Check tolerance mm : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 3- 2  
Phasing : 0-120-240

BASIC SETTING

Rated speed rpm : 1250  
Rack travel in mm : 11.35  
Tolerance mm : ± 0.05  
Del. quantity cm<sup>3</sup>/1000 strokes : 76.0  
Tolerance cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance cm<sup>3</sup>/1000s. : ± 3.0  
Spread Tolerance cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance cm<sup>3</sup>/1000s. : 8.0  
Rated speed rpm : 325

Rack travel in mm : - 9.40  
 Tolerance mm : + 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 21.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
  
 Rack travel in mm : 0.50  
 Tolerance mm : + 0.20  
  
 governor spring  
 pre-tension  
 click setting x : 2.25

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 76.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 3.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

CONTROL LEVER

control lever  
 position degree : 99.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.35  
 Rated speed rpm : 1295  
 Tolerance 1/min : + 5

rack travel mm : 4.00  
 Rated speed rpm : 1355  
 Tolerance 1/min : + 15

rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1450

rack travel mm : 4.00  
 Rated speed rpm : 1365

LOW IDLE

control lever  
 position degree : 65.0  
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
 rack travel mm : 8.90

Testing:

Rated speed rpm : 325  
 rack travel mm : 9.40  
 Tolerance mm : + 0.10

rack travel mm : 2.00  
 Rated speed rpm : 500  
 Tolerance 1/min : + 30

TORQUE CONTROL

Rated speed rpm : 1250  
 rack travel mm : 11.35  
 Tolerance mm : + 0.05

Rated speed rpm : 750  
 rack travel mm : 11.35  
 Tolerance mm : + 0.10

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
 hPa : -  
 Rated speed rpm : 750

Del. quantity  
cm<sup>3</sup>/1000 strokes : 70.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

#### BREAKAWAY

Rack travel in mm : 10.35  
Rated speed rpm : 1295  
Tolerance 1/min : ± 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.25  
Tolerance mm : ± 0.75  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 120.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 7.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 10.0

---

#### LOW IDLE

Rated speed rpm : 325  
rack travel mm : 9.40  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

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End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 24.01.96  
Test oil : ISO 4113  
Combination No. : 9 400 030 708  
Injection pump  
Pump designation : PES6A100D320/3RS3506  
EP type number : 9 410 037 236  
Governor  
Governor design. : RQV400...1250AB1301R  
Governor no. : 9 420 030 158  
Cust. part No. : TATA-CUMMINS

Customer-spec. information  
Customer : CUMMINS  
Motor : 6BT - 125 ps

TEST BENCH REQUIREMENTS

Inlet Line : 1.1;  
Test oil inlet  
temp. °C : 40  
Tolerance °C : +- 2.0  
Overflow valve : 9 451 037 430  
Inlet press. bar : 2.0  
Tolerance bar : +- 0.1  
Test nozzle holde  
assembly : 1 688 901 101  
Opening pressure  
bar : 208.5  
Tolerance bar : +- 1.5  
Test Lines : 1 680 750 014  
Outside diameter : 6.0

M03

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : +- 1.0

Prestroke mm : 3.60  
Tolerance mm : +- 0.05  
Check  
tolerance mm : +- 0.10

Rack travel in mm : 10.50  
Tolerance mm : +- 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

BASIC SETTING

Rated speed rpm : 1250

Rack travel in mm : 10.30  
Tolerance mm : +- 0.05

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 400  
guide sleeve  
travel mm : 1.71  
Tolerance mm : +- 0.20

Rated speed rpm : 1347  
guide sleeve  
travel mm : 8.48

Tolerance mm :  $\pm$  0.15  
 Rated speed rpm : 880  
 guide sleeve  
 travel mm : 4.97  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 499  
 guide sleeve  
 travel mm : 2.75  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 549  
 guide sleeve  
 travel mm : 3.30  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 560  
 guide sleeve  
 travel mm : 3.37  
 Tolerance mm :  $\pm$  0.25  
 Rated speed rpm : 1620  
 guide sleeve  
 travel mm : 11.50  
 Tolerance mm :  $\pm$  0.50

---

#### GUIDE SLEEVE POSITION

Rated speed rpm : 1250  
 Rack travel in mm : 16.00  
 Tolerance mm :  $\pm$  1.30

---

#### CONTROL LEVER

control lever  
 position degree : 61.0  
 tolerance degree :  $\pm$  4.0

#### RATED SPEED

rack travel mm : 9.30  
 Rated speed rpm : 1335  
 Tolerance 1/min :  $\pm$  5  
 rack travel mm : 4.00  
 Rated speed rpm : 1430  
 Tolerance 1/min :  $\pm$  15  
 rack travel mm : 0.50  
 Tolerance mm :  $\pm$  0.50  
 Rated speed rpm : 1490

---

#### LOW IDLE

MO4

control lever  
 position degree : 15.0  
 tolerance degree :  $\pm$  4.0

#### Testing:

Rated speed rpm : 400  
 rack travel mm : 6.40  
 Tolerance mm :  $\pm$  0.10  
 rack travel mm : 2.00  
 Rated speed rpm : 630  
 Tolerance 1/min :  $\pm$  30  
 Rated speed rpm : 100  
 CRT mm min. :  $>$  9.00

---

#### TORQUE CONTROL

Rated speed rpm : 1250  
 rack travel mm : 10.30  
 Tolerance mm :  $\pm$  0.05  
 Rated speed rpm : 550  
 rack travel mm : 10.30  
 Tolerance mm :  $\pm$  0.10  
 Rated speed rpm : 750  
 rack travel mm : 10.30  
 Tolerance mm :  $\pm$  0.15

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 800  
 Pressure hPa : 1000  
 rack travel mm : 10.30  
 Tolerance mm :  $\pm$  0.05

#### MEASUREMENT

Rated speed rpm : 800  
 Pressure hPa : -  
 rack travel mm : 10.30  
 Tolerance mm :  $\pm$  0.05  
 Pressure hPa : 500  
 rack travel mm : 10.30  
 Tolerance mm :  $\pm$  0.05



---

START CUT-OUT

Rated speed rpm : > 120  
Rated speed rpm : < 300

Check speed 1/min : > 100  
Check speed 1/min : < 340

---

BREAKAWAY

Rack travel in mm : 9.30  
Rated speed rpm : 1335  
Tolerance 1/min : + 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 14.40  
Tolerance mm : + 0.50

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 14.09.94  
Test oil : ISO 4113  
  
Combination No. : 9 400 085 315  
  
Injection pump  
Pump designation : PES6A95D410RS2772  
EP type number : 9 400 084 018  
  
Governor  
Governor design. : RQV300...1300AB1066  
: -9L  
Governor no. : 9 420 080 282  
  
Cust. part No. :

Customer-spec. information  
Customer : MBB  
Motor : OM 366 A  
Power KW : 125.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0  
  
Overflow valve : 1 419 992 198  
  
Inlet press. bar : 1.5  
  
Test nozzle holde  
assembly : 0 681 343 009  
  
Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5  
  
Test lines : 1 680 750 015  
  
Outside diameter : 6.0

M06

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0  
  
Prestroke mm : 3.25  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10  
  
Rack travel in mm : 10.50  
Tolerance mm : + 1.50  
  
Firing order : 1- 5- 3- 6- 2-  
: 4  
  
Phasing : 0-60-120-180-240  
: -300

BASIC SETTING

Rated speed rpm : 1300  
  
Rack travel in mm : 10.45  
Tolerance mm : + 0.05  
  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 88.0  
  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0  
  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 11.5  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 4.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.05  
 Tolerance mm : ± 0.25

Rated speed rpm : 1500  
 guide sleeve  
 travel mm : 8.55  
 Tolerance mm : ± 0.05

Rated speed rpm : 500  
 guide sleeve  
 travel mm : 2.55  
 Tolerance mm : ± 0.25

Rated speed rpm : 750  
 guide sleeve  
 travel mm : 4.20  
 Tolerance mm : ± 0.10

GUIDE SLEEVE POSITION

Rated speed rpm : 1500  
 Rack travel in mm : 16.50  
 Tolerance mm : ± 1.30

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300  
 Aneroid pressure  
 hPa : 800  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 88.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 3.0

M07

Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

CONTROL LEVER

control lever  
 position degree : 109.0  
 tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 9.40  
 Rated speed rpm : 1365  
 Tolerance 1/min : ± 5

rack travel mm : 4.00  
 Rated speed rpm : 1485  
 Tolerance 1/min : ± 15

rack travel mm : 0.50  
 Tolerance mm : ± 0.50  
 Rated speed rpm : 1650

LOW IDLE

control lever  
 position degree : 68.0  
 tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300  
 rack travel mm : 7.00  
 Tolerance mm : ± 0.10

Rated speed rpm : 100  
 CRT mm min. : > 8.00

Rated speed rpm : 375

TORQUE CONTROL

Rated speed rpm : 1300  
 rack travel mm : 10.45  
 Tolerance mm : ± 0.05

Rated speed rpm : 800  
 rack travel mm : 10.95  
 Tolerance mm : ± 0.05

Rated speed rpm : 1000  
rack travel mm : 10.70  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 800  
rack travel mm : 10.95  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500

Rated speed rpm : 500

Pressure hPa : 300  
rack travel mm : 0.50  
Tolerance mm : ± 0.10

Pressure hPa : 460  
rack travel mm : 1.15  
Tolerance mm : ± 0.05

---

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 220

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 240

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 800  
Rated speed rpm : 800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 85.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Aneroid pressure  
hPa : 800  
Rated speed rpm : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 87.5

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 51.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

---

BREAKAWAY

Rack travel in mm : 9.40  
Rated speed rpm : 1365  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 13.70  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 85.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 7.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 10.0

---

LOW IDLE

Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 05.02.96  
Test oil : ISO 4113  
Combination No. : 0 402 066 704  
Injection pump  
Pump designation : PES6P120A120RS3358  
EP type number : 0 412 026 784  
Governor  
Governor design. : RSV475...1250P2A613  
Governor no. : 0 421 833 501

Cust. part No. : 3927359

Customer-spec. information  
Customer : CDC  
Motor : 6BTA-590 ELITE  
Power KW : 149.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2  
Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0  
Overflow valve : 2 417 413 086  
Inlet press. bar : 1.5  
Test nozzle holde  
assembly : 1 688 901 103  
Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5  
Test Lines : 1 680 750 089  
Outside diameter : 8.0

M10

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0  
Prestroke mm : 2.85  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10  
Rack travel in mm : 10.50  
Tolerance mm : + 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : + 0.30  
Check  
tolerance °NW : + 0.50  
Start of delivery blocking  
°NW after s.o.d. : 7.50  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75  
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1250  
Rack travel in mm : 11.90  
Tolerance mm : + 0.05

Del. quantity  
cm<sup>3</sup>/1000 strokes : 152.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : +- 3.0

---

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

Rated speed rpm : 475

Rack travel in mm : 5.50  
Tolerance mm : +- 0.30

Del. quantity  
cm<sup>3</sup>/1000 strokes : 22.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.5

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : +- 0.20

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
Aneroid pressure  
hPa : 1500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 152.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 3.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

---

CONTROL LEVER

control lever  
position degree : 110.0  
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 10.90  
Rated speed rpm : 1320  
Tolerance 1/min : +- 5

rack travel mm : 4.00  
Rated speed rpm : 1420  
Tolerance 1/min : +- 15

rack travel mm : 0.85  
Tolerance mm : +- 0.55  
Rated speed rpm : 1500

---

LOW IDLE

control lever  
position degree : 84.0  
tolerance degree : +- 4.0

Testing:

Rated speed rpm : 475  
rack travel mm : 5.50  
Tolerance mm : +- 0.10

rack travel mm : 2.00  
Rated speed rpm : 570  
Tolerance 1/min : +- 30

SET IDLE AUXILIARY SPRING

rack travel mm : 2.00

---

TORQUE CONTROL

Rated speed rpm : 1250  
rack travel mm : 11.90  
Tolerance mm : +- 0.05

Rated speed rpm : 750  
rack travel mm : 11.90  
Tolerance mm : +- 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1500  
rack travel mm : 11.90  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 9.10  
Tolerance mm : ± 0.20

Rated speed rpm : 500

Pressure hPa : 975  
rack travel mm : 11.20  
Tolerance mm : ± 0.20

Pressure hPa : 575  
rack travel mm : 9.50  
Tolerance mm : ± 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1500  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 170.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 12.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 16.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 99.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 10.90  
Rated speed rpm : 1320  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.25  
Tolerance mm : ± 0.75  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 165.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 25.0

---

LOW IDLE

Rated speed rpm : 475  
rack travel mm : 5.50  
Tolerance mm : ± 0.30  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 22.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 02.02.96  
Test oil : ISO 4113  
Combination No. : 0 402 896 009

Injection pump  
Pump designation : PE6P120A320RS8020  
EP type number : 0 412 826 021

Governor  
Governor design. : RE30  
Governor no. : 0 421 890 010

Cust. part No. : 479889-P03 V.08/95

Customer-spec. information  
Customer : VOLVO-TRUCK  
Motor : TD123,TD103 E ES  
Power KW : 290.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 2 417 413 078

Inlet press. bar : 2.5  
Tolerance bar : ± 0.1

Test nozzle holde  
assembly : 1 688 901 103

Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 008

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

Pump-specific values  
in Section (B)  
must be observed!

(A) INJECTION PUMP SETTINGS  
No basic setting.  
Setting of constant delivery  
under Section C.

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0

Prestroke mm : 4.05

Prestroke mm : 4.00  
Tolerance mm : ± 0.05  
Tolerance mm : ± 0.05

Check  
tolerance mm : ± 0.10  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50

Rack travel in mm : 10.50  
Tolerance mm : ± 0.50  
Tolerance mm : ± 0.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.30  
Check  
tolerance °NW : ± 0.75

Start of delivery mark

Barrel no. : 1

---

(B) POSITIONER TESTING

Warm-up time: 3 minutes at  
n=600 min<sup>-1</sup>, Uact = 2.5 V

TESTING & SETTING RACK TRAVEL SENSOR  
POSITION

Engine speed min<sup>-1</sup>: 0

Setting point  
(P, R and H pump)

Uact V : 3.100  
CRT mm : 13.00  
Tolerance mm : +/- 0.05  
Check  
tolerance mm : +/- 0.10

Check value  
(P, R and H pump)

Uact V : 1.700  
CRT mm : 6.15  
Tolerance mm : +/- 0.25  
Check  
tolerance mm : +/- 0.30

Setting point  
(M pump)

Uact V : 3.100  
CRT mm : 12.50  
Tolerance mm : +/- 0.05  
Check  
tolerance mm : +/- 0.10

Check value  
(M pump)

Uact V : 1.700  
CRT mm : 5.50  
Tolerance mm : +/- 0.25  
Check  
tolerance mm : +/- 0.30

Stop position

Uact V : Value with  
deenergised adjusting magnet  
and control rod in  
stop position.

CRT mm : 0.75  
Tolerance mm : +/- 0.25  
Check  
tolerance mm : +/- 0.35

ENGINE-SPEED SENSOR  
(All P and R pumps not  
H and M pumps)

Test with control rod  
in stop position

Engine speed min<sup>-1</sup>: 60  
Amplitude V : 1.4  
Tolerance V : +/- 0.6  
Check  
tolerance V : +/- 1.20

Engine speed min<sup>-1</sup>: 600  
Difference  
Amplitude to  
Amplitude V : max.1.4

---

(C) INJECTION PUMP WITH POSITIONER

TEST POINT V1

Rated speed rpm : 600  
Uact V : 2.800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 302.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +/- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +/- 4.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 11.0

FUEL DELIVERY CHARACTERISTICS

Rated speed rpm : 950  
Uact V : 2.800  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 258.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +/- 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +/- 6.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 14.0  
Rated speed rpm : 950  
Uact V : 2.200  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 183.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 6.0

TEST POINT L1

Rated speed rpm : 250  
Uact V : 1.400  
Tolerance Volt : ± 0.060  
Check tolerance  
Volt : ± 0.060  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 22.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 01.02.96  
Test oil : ISO 4113  
Combination No. : 0 403 244 047  
Injection pump  
Pump designation : PES4MW100/720RS1525  
EP type number : 0 413 204 022  
Governor  
Governor design. : RQV300...1300MW132  
: -13  
Governor no. : 0 420 083 330  
Cust. part No. : 0260746302

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM364LA  
Power KW : 103.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 419 992 198  
Inlet press. bar : 1.5  
Test nozzle holde  
assembly : 1 688 901 101  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 089  
Outside diameter : 8.0

x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
Prestroke mm : 4.55  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
Rack travel in mm : 20.00  
Tolerance mm : ± 1.00  
Firing order : 1- 3- 4- 2  
Phasing : 0-90-180-270  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 1300  
Rack travel in mm : 13.30  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 119.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0

Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0  
 Rated speed rpm : 300  
 Rack travel in mm : 3.90  
 Tolerance mm : + 0.20  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 12.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 4.0

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 0.91  
 Tolerance mm : + 0.25  
 Rated speed rpm : 1354  
 guide sleeve  
 travel mm : 7.15  
 Tolerance mm : + 0.25  
 Rated speed rpm : 1130  
 guide sleeve  
 travel mm : 5.40  
 Tolerance mm : + 0.25  
 Rated speed rpm : 610  
 guide sleeve  
 travel mm : 2.96  
 Tolerance mm : + 0.25  
 Rated speed rpm : 660  
 guide sleeve  
 travel mm : 3.31  
 Tolerance mm : + 0.25  
 Rated speed rpm : 780  
 guide sleeve  
 travel mm : 3.72  
 Tolerance mm : + 0.25  
 Rated speed rpm : 1679  
 guide sleeve  
 travel mm : 12.00  
 Tolerance mm : + 0.25

Rated speed rpm : 1780  
 guide sleeve  
 travel mm : 13.50  
 Tolerance mm : + 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1445  
 Rack travel in mm : 10.00  
 Tolerance mm : + 2.50

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300  
 Aneroid pressure  
 hPa : 1200  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 119.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

CONTROL LEVER

control lever  
 position degree : 113.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 12.30  
 Rated speed rpm : 1345  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1475  
 Tolerance 1/min : + 15  
 rack travel mm : 0.50  
 Tolerance mm : + 0.50  
 Rated speed rpm : 1550

LOW IDLE

control lever  
position degree : 74.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 3.90  
Tolerance mm : ± 0.10  
  
Rated speed rpm : 200  
  
CRT mm min. : > 4.50

TORQUE CONTROL

Rated speed rpm : 1300  
rack travel mm : 13.30  
Tolerance mm : ± 0.05  
  
Rated speed rpm : 600  
rack travel mm : 13.30  
Tolerance mm : ± 0.10

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1200  
rack travel mm : 13.30  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
Tolerance mm : ± 0.10

Rated speed rpm : 500

Pressure hPa : 750  
rack travel mm : 3.50  
Tolerance mm : ± 0.10

Pressure hPa : 350  
rack travel mm : 1.20  
Tolerance mm : ± 0.10

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 200

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 220

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 117.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 5.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 6.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 50.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

BREAKAWAY

Rack travel in mm : 12.30  
Rated speed rpm : 1345  
Tolerance 1/min : ± 5

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 150.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 8.0

LOW IDLE

Rated speed rpm : 300  
rack travel mm : 3.90

Tolerance mm : +- 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 4.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 06.02.96  
Test oil : ISO 4113  
Combination No. : 0 403 444 142  
Injection pump  
Pump designation : PES4MW100/720RS1212  
EP type number : 0 413 404 114  
Governor  
Governor design. : RQV300...1300MW50  
: -15  
Governor no. : 0 420 083 238  
Cust. part No. :

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM364LA  
Power KW : 102.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : +- 2.0  
Overflow valve : 1 419 992 198  
Inlet press. bar : 1.5  
Test nozzle holde  
assembly : 1 688 901 101  
Opening pressure  
bar : 208.5  
Tolerance bar : +- 1.5  
Test lines : 1 680 750 089  
Outside diameter : 8.0

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x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : +- 1.0

Prestroke mm : 3.75  
Tolerance mm : +- 0.05  
Check  
tolerance mm : +- 0.10

Rack travel in mm : 10.50  
Tolerance mm : +- 1.50

Firing order : 1- 3- 4- 2

Phasing : 0-90-180-270  
Tolerance : +- 0.50  
Check  
tolerance °NW : +- 0.75

BASIC SETTING

Rated speed rpm : 1300

Rack travel in mm : 13.25  
Tolerance mm : +- 0.05

Del. quantity  
cm3/1000 strokes : 102.0

Tolerance  
cm3/1000 strokes : +- 1.0

Check tolerance  
cm3/1000s. : +- 3.0

Spread  
Tolerance  
cm3/1000 strokes : 3.5



Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0  
 Rated speed rpm : 300  
 Rack travel in mm : 6.50  
 Tolerance mm : ± 0.20  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 12.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 4.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 5.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE TRAVEL

Rated speed rpm : 300  
 guide sleeve  
 travel mm : 1.40  
 Tolerance mm : ± 0.25  
 Rated speed rpm : 1355  
 guide sleeve  
 travel mm : 8.65  
 Tolerance mm : ± 0.25  
 Rated speed rpm : 885  
 guide sleeve  
 travel mm : 5.01  
 Tolerance mm : ± 0.25  
 Rated speed rpm : 355  
 guide sleeve  
 travel mm : 1.96  
 Tolerance mm : ± 0.25  
 Rated speed rpm : 405  
 guide sleeve  
 travel mm : 2.33  
 Tolerance mm : ± 0.25  
 Rated speed rpm : 500  
 guide sleeve  
 travel mm : 2.92  
 Tolerance mm : ± 0.25  
 Rated speed rpm : 1610  
 guide sleeve  
 travel mm : 11.50  
 Tolerance mm : ± 0.50

GUIDE SLEEVE POSITION

Rated speed rpm : 1440  
 Rack travel in mm : 10.00  
 Tolerance mm : ± 2.70

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1300  
 Aneroid pressure  
 hPa : 700  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 102.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 3.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0

CONTROL LEVER

control lever  
 position degree : 113.0  
 tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 12.20  
 Rated speed rpm : 1345  
 Tolerance 1/min : ± 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1465  
 Tolerance 1/min : ± 15  
 rack travel mm : 0.50  
 Tolerance mm : ± 0.50  
 Rated speed rpm : 1550

LOW IDLE

control lever  
 position degree : 79.0  
 tolerance degree : ± 4.0

Testing:

Rated speed rpm : 300  
rack travel mm : 6.50  
Tolerance mm : ± 0.10

Rated speed rpm : 200  
CRT mm min. : > 8.00

---

#### TORQUE CONTROL

Rated speed rpm : 1300  
rack travel mm : 13.25  
Tolerance mm : ± 0.05

Rated speed rpm : 600  
rack travel mm : 13.25  
Tolerance mm : ± 0.10

---

#### ANEROID/ALTITUDE COMPENSATOR TEST

#### SETTING

Rated speed rpm : 500  
Pressure hPa : 700  
rack travel mm : 13.25  
Tolerance mm : ± 0.05

#### MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.15  
Tolerance mm : ± 0.05

Rated speed rpm : 500

Pressure hPa : 400  
rack travel mm : 12.70  
Tolerance mm : ± 0.10

Pressure hPa : 200  
rack travel mm : 11.00  
Tolerance mm : ± 0.10

---

#### START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 200

Check  
speed 1/min : > 80  
Check  
speed 1/min : < 230

---

#### FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 700  
Rated speed rpm : 600  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 89.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 36.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

---

#### BREAKAWAY

Rack travel in mm : 12.20  
Rated speed rpm : 1345  
Tolerance 1/min : ± 5

---

#### STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 90.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 8.0

---

#### LOW IDLE

Rated speed rpm : 300  
rack travel mm : 6.50  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 12.0

Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 02.02.96  
Test oil : ISO 4113  
  
Combination No. : 0 403 456 118A  
  
Injection pump  
Pump designation : PES6MW100/321RS1201  
EP type number : 0 413 406 190  
  
Governor  
Governor design. : RQV250...1200MW83-3  
Governor no. : 0 420 083 280  
  
Cust. part No. : 3-7530

Customer-spec. information  
Customer : MAN  
Motor : D 0826 LOH 12  
Power KW : 140.0

TEST BENCH REQUIREMENTS

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 1 419 992 198  
  
Inlet press. bar : 1.5  
  
Test nozzle holde  
assembly : 0 681 343 009  
  
Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5  
  
Test lines : 1 680 750 008  
  
Outside diameter : 6.0  
  
x inside diameter : 2.0  
x length mm : 600

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REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
  
Prestroke mm : 3.55  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
  
Firing order : 1- 5- 3- 6- 2-  
: 4  
  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75  
  
Start of delivery mark  
  
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 700  
  
Rack travel in mm : 11.00  
Tolerance mm : ± 0.05  
  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 110.0  
  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0  
  
Spreed

Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

---

Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

Rated speed rpm : 250

Rack travel in mm : 5.50  
Tolerance mm : ± 0.20

Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE TRAVEL

Rated speed rpm : 250  
guide sleeve  
travel mm : 1.11  
Tolerance mm : ± 0.20

Rated speed rpm : 1261  
guide sleeve  
travel mm : 10.59  
Tolerance mm : ± 0.15

Rated speed rpm : 812  
guide sleeve  
travel mm : 5.87  
Tolerance mm : ± 0.25

Rated speed rpm : 450  
guide sleeve  
travel mm : 3.22  
Tolerance mm : ± 0.25

Rated speed rpm : 1460  
guide sleeve  
travel mm : 13.50  
Tolerance mm : ± 0.50

---

GUIDE SLEEVE POSITION

Rated speed rpm : 1370

Rack travel in mm : 10.00

M25

Tolerance mm : ± 2.50

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700

Aneroid pressure  
hPa : 800

Del. quantity  
cm<sup>3</sup>/1000 strokes : 110.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 6.0

---

CONTROL LEVER

control lever  
position degree : 299.0  
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 9.85  
Rated speed rpm : 1253  
Tolerance 1/min : ± 8

rack travel mm : 4.00  
Rated speed rpm : 1330  
Tolerance 1/min : ± 15

rack travel mm : 0.50  
Tolerance mm : ± 0.50  
Rated speed rpm : 1400

---

LOW IDLE

control lever  
position degree : 253.0  
tolerance degree : ± 4.0

Testing:

Rated speed rpm : 250  
rack travel mm : 5.50  
Tolerance mm : ± 0.10

Rated speed rpm : 100

CRT mm min. : > 6.00

---

TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 11.00  
Tolerance mm : ± 0.05

Rated speed rpm : 1200  
rack travel mm : 10.85  
Tolerance mm : ± 0.10

Rated speed rpm : 1000  
rack travel mm : 10.90  
Tolerance mm : ± 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 800  
rack travel mm : 11.00  
Tolerance mm : ± 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.05  
Tolerance mm : ± 0.05

Rated speed rpm : 500

Pressure hPa : 150  
rack travel mm : 10.35  
Tolerance mm : ± 0.15

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 800  
Rated speed rpm : 1200  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 117.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 7.0

Aneroid pressure  
hPa : 800  
Rated speed rpm : 1000  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 118.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.5  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 75.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

---

BREAKAWAY

Rack travel in mm : 9.85  
Rated speed rpm : 1253  
Tolerance 1/min : ± 8

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 70.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 10.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 13.0

---

LOW IDLE

Rated speed rpm : 250  
rack travel mm : 5.50  
Tolerance mm : ± 0.20  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 18.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 05.02.96  
Test oil : ISO 4113  
Combination No. : 0 403 476 120  
Injection pump  
Pump designation : PES6MW100/72ORS1131  
: -1  
EP type number : 0 413 406 165  
Governor  
Governor design. : RSV350...750MWOA336  
: -6  
Governor no. : 0 420 085 198  
Cust. part No. :

Customer-spec. information  
Customer : MB-NFZ  
Motor : OM 366 LA  
Power KW : 87.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 419 992 198  
Inlet press. bar : 1.5  
Test nozzle holde  
assembly : 1 688 901 101  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 089

Outside diameter : 8.0  
x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 31.0  
Tolerance bar : ± 1.0  
Prestroke mm : 3.65  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10  
Rack travel in mm : 10.50  
Tolerance mm : ± 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

BASIC SETTING

Rated speed rpm : 700  
Rack travel in mm : 12.55  
Tolerance mm : ± 0.05  
Del. quantity  
cm3/1000 strokes : 88.0  
Tolerance  
cm3/1000 strokes : ± 1.0  
Check tolerance  
cm3/1000S. : ± 3.0  
Speed



Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  


---

 Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0  
  
 Rated speed rpm : 350  
  
 Rack travel in mm : 5.80  
 Tolerance mm : + 0.70  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 11.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 5.5

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
  
 Rack travel in mm : 0.65  
 Tolerance mm : + 0.35  
  
 governor spring  
 pre-tension  
 click setting x : 2.80

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 700  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 88.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 3.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 6.0

CONTROL LEVER

NO1

control lever  
 position degree : 77.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 1.00  
 Tolerance mm : + 0.70  
 Rated speed rpm : 850

ASSEMBLY GOVERNOR SETTING

Rated speed rpm : 750  
 rack travel mm : 11.50

Rated speed rpm : 779  
 Tolerance 1/min : + 4  
 rack travel mm : 4.00

Rated speed rpm : 751  
 rack travel mm : 11.50

Rated speed rpm : 780  
 Tolerance 1/min : + 4  
 rack travel mm : 4.00

Rated speed rpm : 752  
 rack travel mm : 11.50

Rated speed rpm : 781  
 Tolerance 1/min : + 4  
 rack travel mm : 4.00

Rated speed rpm : 753  
 rack travel mm : 11.50

Rated speed rpm : 782  
 Tolerance 1/min : + 4  
 rack travel mm : 4.00

Rated speed rpm : 754  
 rack travel mm : 11.50

Rated speed rpm : 783  
 Tolerance 1/min : + 4  
 rack travel mm : 4.00

Rated speed rpm : 755  
 rack travel mm : 11.50

Rated speed rpm : 784  
 Tolerance 1/min : + 4  
 rack travel mm : 4.00

LOW IDLE

control lever  
position degree : 67.0  
tolerance degree : +- 2.0

Testing:

Rated speed rpm : 350  
rack travel mm : 5.80  
Tolerance mm : +- 0.50

rack travel mm : 2.00  
Rated speed rpm : 400  
Tolerance 1/min : +- 30

Rated speed rpm : 100

CRT mm min. : > 19.00

---

TORQUE CONTROL

Rated speed rpm : 700  
rack travel mm : 12.55  
Tolerance mm : +- 0.05

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
Del. quantity  
cm3/1000 strokes : 93.0  
Tolerance  
cm3/1000 strokes : +- 5.0  
Check tolerance  
cm3/1000S. : +- 8.0

---

LOW IDLE

Rated speed rpm : 350  
rack travel mm : 5.80  
Tolerance mm : +- 0.70  
Del. quantity  
cm3/1000 strokes : 11.0  
Tolerance  
cm3/1000 strokes : +- 2.0  
Check tolerance  
cm3/1000S. : +- 4.5  
Spread  
Tolerance  
cm3/1000 strokes : 3.5

NO2

Check tolerance  
cm3/1000S. : 5.5

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 20.11.95  
Test oil : ISO 4113  
Combination No. : 0 403 466 166  
Injection pump  
Pump designation : PES6MW100/120RS1241  
EP type number : 0 413 406 240  
Governor  
Governor design. : RSV450...1250MWOA384  
Governor no. : 0 420 085 267

Cust. part No. : 3929163

Customer-spec. information  
Customer : CDC  
Motor : 6 CT  
Power KW : 160.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
Overflow valve : 1 417 413 047  
Inlet press. bar : 2.0  
Tolerance bar : ± 0.1  
Test nozzle holde  
assembly : 1 688 901 101  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0

N03

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : ± 1.0  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

Start of delivery blocking

°NW after s.o.d. : 8.25  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75  
Barrel no. : 1

Beginning of delivery differende

and maximum rack  
travel : 15.00  
Difference ° CS : 1.50

BASIC SETTING

Rated speed rpm : 1250  
Rack travel in mm : 12.25  
Tolerance mm : ± 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 142.5

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

Del. quantity  
cm<sup>3</sup>/1000 strokes : 14.0

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.5

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

Check tolerance  
cm<sup>3</sup>/1000S. : 5.5

---

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50

Tolerance mm : ± 0.20

governor spring  
pre-tension  
click setting x : 3.25

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250

Aneroid pressure  
hPa : 1200

Del. quantity  
cm<sup>3</sup>/1000 strokes : 142.5

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 4.0

Check tolerance  
cm<sup>3</sup>/1000S. : 7.5

---

CONTROL LEVER

control lever  
position degree : 92.5  
tolerance degree : ± 4.0

RATED SPEED

rack travel mm : 11.20  
Rated speed rpm : 1315  
Tolerance 1/min : ± 5

rack travel mm : 6.60  
Rated speed rpm : 1390  
Tolerance 1/min : ± 5

rack travel mm : 1.00  
Tolerance mm : ± 0.70  
Rated speed rpm : 1495

---

LOW IDLE

control lever  
position degree : 74.0  
tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 450  
rack travel mm : 4.60

Testing:

Rated speed rpm : 450  
rack travel mm : 5.10  
Tolerance mm : ± 0.10

Rated speed rpm : 100

CRT mm min. : > 19.00

---

TORQUE CONTROL

Rated speed rpm : 1250  
rack travel mm : 12.25  
Tolerance mm : ± 0.05

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1200

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.20  
Tolerance mm : +- 0.20

Rated speed rpm : 500

Pressure hPa : 800  
rack travel mm : 11.50  
Tolerance mm : +- 0.20

Pressure hPa : 600  
rack travel mm : 10.60  
Tolerance mm : +- 0.25

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm3/1000 strokes : 114.5  
Tolerance  
cm3/1000 strokes : +- 1.0  
Check tolerance  
cm3/1000S. : +- 3.0

BREAKAWAY

Rack travel in mm : 11.20  
Rated speed rpm : 1315  
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : +- 1.00  
Del. quantity  
cm3/1000 strokes : 171.5  
Tolerance  
cm3/1000 strokes : +- 10.0  
Check tolerance  
cm3/1000S. : +- 13.0

LOW IDLE

Del. quantity  
cm3/1000 strokes : 14.0  
Tolerance  
cm3/1000 strokes : +- 2.0  
Check tolerance  
cm3/1000S. : +- 4.5  
Speed  
Tolerance  
cm3/1000 strokes : 3.5  
Check tolerance  
cm3/1000S. : 5.5

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 06.02.96  
Test oil : ISO 4113  
Combination No. : 0 400 863 021  
Injection pump  
Pump designation : PES3A95D410/3RS2905  
EP type number : 0 410 893 996  
Governor  
Governor design. : RSV325...900A1C859L  
Governor no. : 0 420 232 622  
Cust. part No. : 0423 1593 KY

Customer-spec. information  
Customer : KHD-DMI  
Motor : F3L912/913\_NEU  
Power KW : 40.5

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0  
Overflow valve : 1 419 992 198  
Inlet press. bar : 1.5  
Test nozzle holde  
assembly : 0 681 343 009  
Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0

N06

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0

Prestroke mm : 3.00  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10

Rack travel in mm : 10.50  
Tolerance mm : + 1.50

Firing order : 1- 3- 2

Phasing : 0-120-240

BASIC SETTING

Del. quantity  
cm3/1000 strokes : 80.0

Tolerance  
cm3/1000 strokes : + 1.0

Check tolerance  
cm3/1000S. : + 3.0

Spreed  
Tolerance  
cm3/1000 strokes : 3.5

Check tolerance  
cm3/1000S. : 8.0

Rated speed rpm : 325

Rack travel in mm : 9.50  
Del. quantity  
cm3/1000 strokes : 21.0  
Tolerance  
cm3/1000 strokes : + 2.0

Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
Rack travel in mm : 0.50  
Tolerance mm : +- 0.20  
governor spring  
pre-tension  
click setting x : 2.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 890  
Aneroid pressure  
hPa : -  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 80.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 3.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

CONTROL LEVER

control lever  
position degree : 89.0  
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 10.80  
Rated speed rpm : 898  
Tolerance 1/min : +- 5  
rack travel mm : 4.00  
Rated speed rpm : 915  
Tolerance 1/min : +- 10

NO7

rack travel mm : 0.85  
Tolerance mm : +- 0.55  
Rated speed rpm : 1090

rack travel mm : 4.00  
Rated speed rpm : 940

LOW IDLE

control lever  
position degree : 67.0  
tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
rack travel mm : 9.00

Testing:

Rated speed rpm : 325  
rack travel mm : 9.50  
Tolerance mm : +- 0.10

rack travel mm : 2.00  
Rated speed rpm : 430  
Tolerance 1/min : +- 30

Rated speed rpm : 100

CRT mm min. : > 19.50

BREAKAWAY

Rack travel in mm : 10.80  
Rated speed rpm : 898  
Tolerance 1/min : +- 5

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.25  
Tolerance mm : +- 0.75  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 123.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 7.5

Check tolerance  
cm<sup>3</sup>/1000S. : +- 10.0

---

LOW IDLE

Rated speed rpm : 325  
rack travel mm : 9.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

End of test specification sheet



BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 06.02.96  
Test oil : ISO 4113  
Combination No. : 0 400 866 222  
Injection pump  
Pump designation : PES6A95D410/3RS2907  
EP type number : 0 410 896 884  
Governor  
Governor design. : RSV325...1250A5C858L  
Governor no. : 0 420 232 621  
Cust. part No. : 0423 1601 KY

Customer-spec. information  
Customer : KHD-DMI  
Motor : F6L912/913\_NEU  
Power KW : 81.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0  
Overflow valve : 1 419 992 198  
Inlet press. bar : 1.5  
Test nozzle holde  
assembly : 0 681 343 009  
Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0

NO9

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0  
Prestroke mm : 3.00  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10  
Rack travel in mm : 10.50  
Tolerance mm : + 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300

BASIC SETTING

Rated speed rpm : 1250  
Rack travel in mm : 11.35  
Tolerance mm : + 0.05  
Del. quantity  
cm3/1000 strokes : 76.0  
Tolerance  
cm3/1000 strokes : + 1.0  
Check tolerance  
cm3/1000S. : + 3.0  
Speed  
Tolerance  
cm3/1000 strokes : 3.5  
Check tolerance  
cm3/1000S. : 8.0

Rated speed rpm : 325

Rack travel in mm : 9.50  
 Tolerance mm : ± 0.10

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 21.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 4.5

Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50  
 Tolerance mm : ± 0.20

governor spring  
 pre-tension  
 click setting x : 2.75

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
 Aneroid pressure  
 hPa : -

Del. quantity  
 cm<sup>3</sup>/1000 strokes : 76.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : ± 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : ± 3.0

Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

CONTROL LEVER

control lever  
 position degree : 100.0  
 tolerance degree : ± 4.0

N10

RATED SPEED

rack travel mm : 10.35  
 Rated speed rpm : 1290  
 Tolerance 1/min : ± 5

rack travel mm : 4.00  
 Rated speed rpm : 1330  
 Tolerance 1/min : ± 15

rack travel mm : 0.85  
 Tolerance mm : ± 0.55  
 Rated speed rpm : 1510

rack travel mm : 4.00  
 Rated speed rpm : 1360

LOW IDLE

control lever  
 position degree : 67.0  
 tolerance degree : ± 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
 rack travel mm : 9.00

Testing:

Rated speed rpm : 325  
 rack travel mm : 9.50  
 Tolerance mm : ± 0.10

rack travel mm : 2.00  
 Rated speed rpm : 494  
 Tolerance 1/min : ± 30

Rated speed rpm : 100

CRT mm min. : > 19.50

TORQUE CONTROL

Rated speed rpm : 1250  
 rack travel mm : 11.35  
 Tolerance mm : ± 0.05

Rated speed rpm : 750  
 rack travel mm : 11.35  
 Tolerance mm : ± 0.10

---

BREAKAWAY

Rack travel in mm : 10.35  
Rated speed rpm : 1290  
Tolerance 1/min :  $\pm$  5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.25  
Tolerance mm :  $\pm$  0.75  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 123.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  7.5  
Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  10.0

---

LOW IDLE

Rated speed rpm : 325  
rack travel mm : 9.50  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 21.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000s. :  $\pm$  4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000s. : 9.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 13.02.96  
Test oil : ISO 4113  
Combination No. : 0 400 866 223  
Injection pump  
Pump designation : PE56A95D410/3RS2907  
EP type number : 0 410 896 884  
Governor  
Governor design. : RSV325...900A1C859L  
Governor no. : 0 420 232 622  
Cust. part No. : 0423 1602 KY

Customer-spec. information  
Customer : KHD-DMI  
Motor : F6L912/913\_NEU  
Power KW : 81.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : +- 2.0  
Overflow valve : 1 419 992 198  
Inlet press. bar : 1.5  
Test nozzle holde  
assembly : 0 681 343 009  
Opening pressure  
bar : 173.5  
Tolerance bar : +- 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : +- 1.0  
Prestroke mm : 3.00  
Tolerance mm : +- 0.05  
Check  
tolerance mm : +- 0.10  
Rack travel in mm : 10.50  
Tolerance mm : +- 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300

BASIC SETTING

Rated speed rpm : 890  
Rack travel in mm : 11.80  
Tolerance mm : +- 0.05  
Del. quantity  
cm3/1000 strokes : 80.0  
Tolerance  
cm3/1000 strokes : +- 1.0  
Check tolerance  
cm3/1000S. : +- 3.0  
Spreed  
Tolerance  
cm3/1000 strokes : 3.5  
Check tolerance  
cm3/1000S. : 8.0

Rated speed rpm : 325  
 Rack travel in mm : 7.90  
 Tolerance mm : + 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 11.5  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : + 0.20  
 governor spring  
 pre-tension  
 click setting x : 2.50

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 890  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 80.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 3.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

---

CONTROL LEVER

control lever  
 position degree : 90.0  
 tolerance degree : + 4.0

RATED SPEED

rack travel mm : 10.80  
 Rated speed rpm : 898  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00  
 Rated speed rpm : 921  
 Tolerance 1/min : + 10  
 rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1090  
 rack travel mm : 4.00  
 Rated speed rpm : 938

---

LOW IDLE

control lever  
 position degree : 68.0  
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
 rack travel mm : 7.40

Testing:

Rated speed rpm : 325  
 rack travel mm : 7.90

rack travel mm : 2.00  
 Rated speed rpm : 413  
 Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.50

---

TORQUE CONTROL

Rated speed rpm : 890  
 rack travel mm : 11.80  
 Tolerance mm : + 0.05

---

BREAKAWAY

Rack travel in mm : 10.80  
Rated speed rpm : 898  
Tolerance 1/min :  $\pm$  5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.25  
Tolerance mm :  $\pm$  0.75  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 123.0  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  7.5  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  10.0

---

LOW IDLE

Rated speed rpm : 325  
rack travel mm : 7.90  
Tolerance mm :  $\pm$  0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.5  
Tolerance  
cm<sup>3</sup>/1000 strokes :  $\pm$  2.0  
Check tolerance  
cm<sup>3</sup>/1000S. :  $\pm$  4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 14.02.96  
Test oil : ISO 4113  
Combination No. : 0 400 866 224  
Injection pump  
Pump designation : PES6A95D410/3RS2907  
EP type number : 0 410 896 884  
Governor  
Governor design. : RSV325...1250A5C860L  
Governor no. : 0 420 232 623

Cust. part No. : 0423 1812 KY

---

Customer-spec. information  
Customer : KHD-DMI  
Motor : F6L912/913\_NEU  
Power KW : 89.0

---

TEST BENCH REQUIREMENTS

Inlet line : 3.1

Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0

Overflow valve : 1 419 992 198

Inlet press. bar : 1.5

Test nozzle holder  
assembly : 0 681 343 009

Opening pressure  
bar : 173.5  
Tolerance bar : ± 1.5

Test lines : 1 680 750 014

Outside diameter : 6.0

x inside diameter : 2.0  
x length mm : 600

---

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

---

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.00  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300

---

BASIC SETTING

Rated speed rpm : 1250

---

Rack travel in mm : 11.35  
Tolerance mm : ± 0.05

---

Del. quantity  
cm<sup>3</sup>/1000 strokes : 76.0

---

Tolerance  
cm<sup>3</sup>/1000 strokes : ± 1.0

---

Check tolerance  
cm<sup>3</sup>/1000S. : ± 3.0

---

Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5

---

Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 325

Rack travel in mm : 8.20  
 Tolerance mm : +- 0.10

Del. quantity  
 cm3/1000 strokes : 11.5  
 Tolerance  
 cm3/1000 strokes : +- 2.0  
 Check tolerance  
 cm3/1000S. : +- 4.5

Spreed  
 Tolerance  
 cm3/1000 strokes : 5.5  
 Check tolerance  
 cm3/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50  
 Tolerance mm : +- 0.20

governor spring  
 pre-tension  
 click setting x : 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
 Aneroid pressure  
 hPa : -

Del. quantity  
 cm3/1000 strokes : 76.0  
 Tolerance  
 cm3/1000 strokes : +- 1.0  
 Check tolerance  
 cm3/1000S. : +- 3.0

Spreed  
 Tolerance  
 cm3/1000 strokes : 3.5  
 Check tolerance  
 cm3/1000S. : 8.0

CONTROL LEVER

control lever  
 position degree : 102.0  
 tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 10.35  
 Rated speed rpm : 1295  
 Tolerance 1/min : +- 5

rack travel mm : 4.00  
 Rated speed rpm : 1339  
 Tolerance 1/min : +- 15

rack travel mm : 0.85  
 Tolerance mm : +- 0.55  
 Rated speed rpm : 1510

rack travel mm : 4.00  
 Rated speed rpm : 1360

LOW IDLE

control lever  
 position degree : 68.0  
 tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
 rack travel mm : 7.70

Testing:

Rated speed rpm : 325  
 rack travel mm : 8.20  
 Tolerance mm : +- 0.10

rack travel mm : 2.00  
 Rated speed rpm : 473  
 Tolerance 1/min : +- 30

Rated speed rpm : 100

CRT mm min. : > 19.50

TORQUE CONTROL

Rated speed rpm : 1250  
 rack travel mm : 11.35  
 Tolerance mm : +- 0.05

BREAKAWAY



Rack travel in mm : 10.35  
Rated speed rpm : 1295  
Tolerance 1/min : +- 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.25  
Tolerance mm : +- 0.75  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 130.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 7.5  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 10.0

---

LOW IDLE

Rated speed rpm : 325  
rack travel mm : 8.20  
Tolerance mm : +- 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : +- 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : +- 4.5  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 9.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 14.02.96  
Test oil : ISO 4113  
Combination No. : 0 400 866 225  
Injection pump  
Pump designation : PES6A95D410/3RS2907  
EP type number : 0 410 896 884  
Governor  
Governor design. : RSV325...1250A5C861L  
Governor no. : 0 420 232 624  
Cust. part No. : 0423 1813 KY

Customer-spec. information  
Customer : KHD-DMI  
Motor : F6L912/913\_NEU  
Power KW : 89.0

TEST BENCH REQUIREMENTS

Inlet line : 3.1  
Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0  
Overflow valve : 1 419 992 198  
Inlet press. bar : 1.5  
Test nozzle holder  
assembly : 0 681 343 009  
Opening pressure  
bar : 173.5  
Tolerance bar : + 1.5  
Test lines : 1 680 750 014  
Outside diameter : 6.0

N18

x inside diameter : 2.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 26.0  
Tolerance bar : + 1.0  
Prestroke mm : 3.00  
Tolerance mm : + 0.05  
Check  
tolerance mm : + 0.10  
Rack travel in mm : 10.50  
Tolerance mm : + 1.50  
Firing order : 1- 5- 3- 6- 2-  
: 4  
Phasing : 0-60-120-180-240  
: -300

BASIC SETTING

Rated speed rpm : 1250  
Rack travel in mm : 11.35  
Tolerance mm : + 0.05  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 76.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : + 1.0  
Check tolerance  
cm<sup>3</sup>/1000S. : + 3.0  
Speed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 3.5  
Check tolerance  
cm<sup>3</sup>/1000S. : 8.0

Rated speed rpm : 325  
 Rack travel in mm : 8.20  
 Tolerance mm : + 0.10  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 11.5  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 2.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 4.5  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 5.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
 WITH GOVERNOR

GUIDE SLEEVE POSITION

Rated speed rpm : 800  
 Rack travel in mm : 0.50  
 Tolerance mm : + 0.20  
 governor spring  
 pre-tension  
 click setting x : 3.00

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1250  
 Aneroid pressure  
 hPa : -  
 Del. quantity  
 cm<sup>3</sup>/1000 strokes : 76.0  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : + 1.0  
 Check tolerance  
 cm<sup>3</sup>/1000S. : + 3.0  
 Spreed  
 Tolerance  
 cm<sup>3</sup>/1000 strokes : 3.5  
 Check tolerance  
 cm<sup>3</sup>/1000S. : 8.0

CONTROL LEVER

control lever  
 position degree : 102.0  
 tolerance degree : + 4.0

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RATED SPEED

rack travel mm : 10.35  
 Rated speed rpm : 1295  
 Tolerance 1/min : + 5  
 rack travel mm : 4.00  
 Rated speed rpm : 1339  
 Tolerance 1/min : + 15  
 rack travel mm : 0.85  
 Tolerance mm : + 0.55  
 Rated speed rpm : 1510  
 rack travel mm : 4.00  
 Rated speed rpm : 1360

LOW IDLE

control lever  
 position degree : 68.0  
 tolerance degree : + 4.0

Setting point w/out bumper spring

Rated speed rpm : 325  
 rack travel mm : 7.70

Testing:

Rated speed rpm : 325  
 rack travel mm : 8.20  
 Tolerance mm : + 0.10

rack travel mm : 2.00  
 Rated speed rpm : 473  
 Tolerance 1/min : + 30

Rated speed rpm : 100

CRT mm min. : > 19.50

TORQUE CONTROL

Rated speed rpm : 1250  
 rack travel mm : 11.35  
 Tolerance mm : + 0.05

BREAKAWAY

Rack travel in mm : 10.35  
Rated speed rpm : 1295  
Tolerance 1/min : ± 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.25  
Tolerance mm : ± 0.75  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 130.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 7.5  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 10.0

---

LOW IDLE

Rated speed rpm : 325  
rack travel mm : 8.20  
Tolerance mm : ± 0.10  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 11.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000s. : ± 4.5  
Spread  
Tolerance  
cm<sup>3</sup>/1000 strokes : 5.5  
Check tolerance  
cm<sup>3</sup>/1000s. : 9.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 31.01.96  
Test oil : ISO 4113  
  
Combination No. : 0 402 076 781  
  
Injection pump  
Pump designation : PES6P120A720RS3352  
EP type number : 0 412 026 780  
  
Governor  
Governor design. : RSV650...1100P2A599  
: -2  
Governor no. : 0 421 833 491  
  
Cust. part No. : RE62646

Customer-spec. information  
Customer : DEERE  
Motor : 6081HZ003  
Power KW : 170.0

TEST BENCH REQUIREMENTS

Inlet line : 4.2  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : ± 2.0  
  
Overflow valve : 1 457 413 010  
  
Inlet press. bar : 2.0  
  
Test nozzle holde  
assembly : 1 688 901 101  
  
Opening pressure  
bar : 208.5  
Tolerance bar : ± 1.5  
  
Test lines : 1 680 750 015  
  
Outside diameter : 6.0

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x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : ± 1.0

Prestroke mm : 3.60  
Tolerance mm : ± 0.05  
Check  
tolerance mm : ± 0.10

Rack travel in mm : 10.50  
Tolerance mm : ± 1.50

Firing order : 1- 5- 3- 6- 2-  
: 4

Phasing : 0-60-120-180-240  
: -300  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

Start of delivery mark

°NW after s.o.d. : 9.25  
Tolerance : ± 0.50  
Check  
tolerance °NW : ± 0.75

Barrel no. : 1

Beginning of delivery differende

and maximum rack  
travel : 14.00  
Difference ° CS : 2.50

BASIC SETTING

Rated speed rpm : 1100

---

Rack travel in mm : 11.15  
Tolerance mm : +- 0.05

---

Del. quantity  
cm3/1000 strokes : 126.0

---

Tolerance  
cm3/1000 strokes : +- 1.0

---

Check tolerance  
cm3/1000S. : +- 3.0

---

Spread  
Tolerance  
cm3/1000 strokes : 4.0

---

Check tolerance  
cm3/1000S. : 6.5

---

Del. quantity  
cm3/1000 strokes : 22.5  
Tolerance  
cm3/1000 strokes : +- 3.0  
Check tolerance  
cm3/1000S. : +- 5.0  
Spread  
Tolerance  
cm3/1000 strokes : 6.0  
Check tolerance  
cm3/1000S. : 8.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

---

GUIDE SLEEVE POSITION

Rated speed rpm : 800

Rack travel in mm : 0.50  
Tolerance mm : +- 0.20

governor spring  
pre-tension  
click setting x : 3.50

---

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
Aneroid pressure  
hPa : 1100  
Del. quantity  
cm3/1000 strokes : 126.0

Tolerance  
cm3/1000 strokes : +- 1.0  
Check tolerance  
cm3/1000S. : +- 3.0  
Spread  
Tolerance  
cm3/1000 strokes : 4.0  
Check tolerance  
cm3/1000S. : 6.5

---

CONTROL LEVER

control lever  
position degree : 97.0  
tolerance degree : +- 4.0

RATED SPEED

rack travel mm : 10.10  
Rated speed rpm : 1160  
Tolerance 1/min : +- 5

rack travel mm : 4.00  
Rated speed rpm : 1215  
Tolerance 1/min : +- 5

rack travel mm : 0.85  
Tolerance mm : +- 0.55  
Rated speed rpm : 1300

rack travel mm : 4.00  
Rated speed rpm : 1215

---

LOW IDLE

control lever  
position degree : 80.0  
tolerance degree : +- 4.0

Setting point w/out bumper spring

Rated speed rpm : 650  
rack travel mm : 4.65

Testing:

Rated speed rpm : 650  
rack travel mm : 5.15  
Tolerance mm : +- 0.10

Rated speed rpm : 100  
CRT mm min. : > 19.00

---

TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 11.15  
Tolerance mm : +- 0.05

Rated speed rpm : 700  
rack travel mm : 12.25  
Tolerance mm : +- 0.10

---

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 500  
Pressure hPa : 1100

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 500  
rack travel mm : 10.15  
Tolerance mm : +- 0.20

Rated speed rpm : 500

Pressure hPa : 670  
rack travel mm : 11.70  
Tolerance mm : +- 0.20

Pressure hPa : 390  
rack travel mm : 10.70  
Tolerance mm : +- 0.05

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1100  
Rated speed rpm : 700  
Del. quantity  
cm3/1000 strokes : 153.5  
Tolerance  
cm3/1000 strokes : +- 2.0  
Check tolerance  
cm3/1000S. : +- 4.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm3/1000 strokes : 103.0

Tolerance  
cm3/1000 strokes : +- 2.0  
Check tolerance  
cm3/1000S. : +- 4.0

---

BREAKAWAY

Rack travel in mm : 10.10  
Rated speed rpm : 1160  
Tolerance 1/min : +- 5

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 20.50  
Tolerance mm : +- 0.50  
Del. quantity  
cm3/1000 strokes : 105.0  
Tolerance  
cm3/1000 strokes : +- 20.0  
Check tolerance  
cm3/1000S. : +- 25.0

---

LOW IDLE

Del. quantity  
cm3/1000 strokes : 22.5  
Tolerance  
cm3/1000 strokes : +- 3.0  
Check tolerance  
cm3/1000S. : +- 5.0  
Speed  
Tolerance  
cm3/1000 strokes : 6.0  
Check tolerance  
cm3/1000S. : 8.0

---

End of test specification sheet

BOSCH INJ. PUMP TEST SPECIFICATIONS

Note remarks

Refer to Service Info for test and adjustment instructions.  
See microcard(s) W400/...

Edition : 12.02.96  
Test oil : ISO 4113  
  
Combination No. : 0 402 736 845  
  
Injection pump  
Pump designation : PES6P120A12ORS7286  
EP type number : 0 412 726 894  
  
Governor  
Governor design. : RQV350...1100PA964  
                  : -20K  
Governor no. : 0 421 815 352  
  
Cust. part No. : 3922425

Customer-spec. information  
Customer : CDC  
Motor : 6CTA-A  
Power KW : 224.0

TEST BENCH REQUIREMENTS

Inlet line : 3.2  
  
Test oil inlet  
temp. °C : 40  
Tolerance °C : + 2.0  
  
Overflow valve : 2 417 413 086  
  
Inlet press. bar : 2.0  
Tolerance bar : + 0.1  
  
Test nozzle holde  
assembly : 1 688 901 103  
  
Opening pressure  
bar : 208.5  
Tolerance bar : + 1.5  
  
Test lines : 1 680 750 015

Outside diameter : 6.0  
x inside diameter : 3.0  
x length mm : 600

REMARKS

(A) INJECTION PUMP SETTING VALUES  
Set equal delivery quant.  
per values \_\_\_\_\_

BEGINNING OF DELIVERY

Test pressure bar : 17.0  
Tolerance bar : + 1.0  
  
Firing order : 1- 5- 3- 6- 2-  
                  : 4

Phasing : 0-60-120-180-240  
          : -300  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75

Start of delivery blocking

°NW after s.o.d. : 6.25  
Tolerance : + 0.50  
Check  
tolerance °NW : + 0.75  
  
Barrel no. : 1

BASIC SETTING

Rated speed rpm : 1100  
  
Rack travel in mm : 15.25  
Tolerance mm : + 0.05  
  
Del. quantity  
cm3/1000 strokes : 243.5  
  
Tolerance  
cm3/1000 strokes : + 1.0  
  
Check tolerance  
cm3/1000S. : + 4.0



Spreed  
Tolerance  
cm3/1000 strokes : 5.0

Check tolerance  
cm3/1000S. : 9.0

(B) SETTING OF INJECTION PUMP  
WITH GOVERNOR

FULL LOAD DELIVERY AT FULL LOAD STOP

Rated speed rpm : 1100  
Aneroid pressure  
hPa : 1200  
Del. quantity  
cm3/1000 strokes : 243.5  
Tolerance  
cm3/1000 strokes : + 1.0  
Check tolerance  
cm3/1000S. : + 4.0  
Spreed  
Tolerance  
cm3/1000 strokes : 5.0  
Check tolerance  
cm3/1000S. : 9.0

CONTROL LEVER

control lever  
position degree : 119.0  
tolerance degree : + 6.0

RATED SPEED

rack travel mm : 13.60  
Rated speed rpm : 1255  
Tolerance 1/min : + 15  
  
rack travel mm : 4.00  
Rated speed rpm : 1400  
Tolerance 1/min : + 5  
  
rack travel mm : 0.50  
Tolerance mm : + 0.50  
Rated speed rpm : 1500

LOW IDLE

control lever  
position degree : 71.0  
tolerance degree : + 6.0

Testing:

Rated speed rpm : 350  
rack travel mm : 6.60  
Tolerance mm : + 0.20

Rated speed rpm : 275

CRT mm min. : > 7.80

Rated speed rpm : 425

TORQUE CONTROL

Rated speed rpm : 1100  
rack travel mm : 15.25  
Tolerance mm : + 0.05

Rated speed rpm : 650  
rack travel mm : 13.40  
Tolerance mm : + 0.20

Rated speed rpm : 1200  
rack travel mm : 14.70  
Tolerance mm : + 0.10

Rated speed rpm : 750  
rack travel mm : 13.70  
Tolerance mm : + 0.20

ANEROID/ALTITUDE  
COMPENSATOR TEST

SETTING

Rated speed rpm : 1100  
Pressure hPa : 1200  
rack travel mm : 15.25  
Tolerance mm : + 0.05

MEASUREMENT

Pressure hPa : -  
Rated speed rpm : 1100  
rack travel mm : 9.20  
Tolerance mm : + 0.20

Rated speed rpm : 1100

Pressure hPa : 715  
rack travel mm : 13.50  
Tolerance mm : + 0.20

Pressure hPa : 335  
rack travel mm : 10.60  
Tolerance mm : + 0.05

---

START CUT-OUT

Rated speed rpm : > 100  
Rated speed rpm : < 290

Check speed 1/min : > 80  
Check speed 1/min : < 300

---

FUEL DELIVERY CHARACTERISTICS

Aneroid pressure  
hPa : 1200  
Rated speed rpm : 750  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 211.5  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 3.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 6.0  
Spreed  
Tolerance  
cm<sup>3</sup>/1000 strokes : 8.0  
Check tolerance  
cm<sup>3</sup>/1000S. : 12.0

Aneroid pressure  
hPa : -  
Rated speed rpm : 500  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 80.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 2.0  
Check tolerance  
cm<sup>3</sup>/1000S. : ± 4.0

---

BREAKAWAY

Rack travel in mm : 13.60  
Rated speed rpm : 1255  
Tolerance 1/min : ± 15

---

STARTING FUEL DELIVERY

Rated speed rpm : 100  
rack travel mm : 11.50  
Tolerance mm : ± 0.50  
Del. quantity  
cm<sup>3</sup>/1000 strokes : 180.0  
Tolerance  
cm<sup>3</sup>/1000 strokes : ± 20.0

Check tolerance  
cm<sup>3</sup>/1000S. : ± 25.0

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End of test specification sheet